Potential to Emit - Throughput of 90,000 TPY, 3000 TPD and 250 TPH
PO 08-167 - Drum Mix Hot Mix Asphalt Plant with 2.3 MMBH Heater
Tahoe Asphalt, South Lake Tahoe

Parameter	HMA Plant	Hot Oil Heater (External Combustion)
Throughput per Hour	250	2190
Units	tons	ft^3
Hours per Year	360	360
Throughput per Year	90,000	788,571

Particulate Matter Emission Factors for Drum Mix Hot Mix Asphalt Plants

Pollutant	EF (lb/ton product)	Emissions (lb/hour)	Emissions (lb/day)	Emissions (lb/year)	Emission Factor Data Source	Comments
TPM	0.033	8.25	99	2970	AP-42 Table 11.1-3	dryer with fabric filter
PM10	0.023	5.75	69	2070	SMAQMD Source Test 8/31/05	

Emission Factors for CO, CO_2, NO_x and SO_2 from Drum Mix Hot Mix Asphalt Plants

Pollutant	EF (lb/ton HMA produced)	Emissions (lb/hour)	Emissions (lb/day)	Emissions (lb/year)	Emission Factor Data Source	Comments
CO	0.13	32.5	390	11,700	SMAQMD Source Test 8/31/05	natural gas-fired dryer
CO_2	33	8,250	99,000	2,970,000		
NO_x	0.022	5.5	66	1,980		
SO_2	0.0034	0.85	10.2	306		

Emission Factors for TOC, Methane and VOC from Drum Mix Hot Mix Asphalt Plants

Pollutant	EF (lb/ton HMA produced)	Emissions (lb/hour)	Emissions (lb/day)	Emissions (lb/year)	Emission Factor Data Source	Comments
TOC	0.044	11.00	132.0	3,960	AP-42 Table 11.1-8	natural gas-fired dryer
CH4	0.012	3.00	36.0	1,080		
VOC	0.0002	0.05	0.6	18	SMAQMD Source Test 8/31/05	

Emission Factors for Metal Emissions from Drum Mix Hot Mix Asphalt Plants

Pollutant	EF (lb/ton HMA produced)	Emissions (lb/hour)	Emissions (lb/day)	Emissions (lb/year)	Emission Factor Data Source	Comments
Lead	6.20E-07	1.55E-04	1.86E-03	0.06	AP-42 Table 11.1-12	natural gas-fired dryer, fabric filter

Emission Factors for Hot Mix Asphalt Hot Oil Systems

Pollutant	EF (lb/MMBtu)	Emissions (lb/hour)	Emissions (lb/day)	Emissions (lb/year)	Emission Factor Data Source	Comments
CO	8.90E-06	1.95E-02	5.40E-02	7.02	AP-42 Table 11.1-13	Natural Gas-fired hot oil system
CO_2	0.2	438	1213.2	157,714		

Predictive Emission Factor Equations for Load-Out and Silo Filling Operations

Pollutant	EF (lb/ton HMA produced)	Emissions (lb/hour)	Emissions (lb/day)	Emissions (lb/year)	Emission Factor Data Source	Comments	V (asphalt volatility)	T(F)
Total PM*	5.22E-04	1.30E-01	1.57E+00	46.97	AP-42 Table 11.1-14	Load Out*	-0.5	325
TOC	4.16E-03	1.04E+00	1.25E+01	374.31			-0.5	325
CO	1.35E-03	3.37E-01	4.05E+00	121.43			-0.5	325
Total PM*	5.86E-04	1.46E-01	1.76E+00	52.73		Silo Filling	-0.5	325
TOC	1.22E-02	3.05E+00	3.66E+01	1,096.80			-0.5	325
CO	1.18E-03	2.95E-01	3.54E+00	106.20			-0.5	325

* Example Equation: $EF = 0.000181 + 0.00141(-V)e^{((0.0251(T+460)-20.43)}$

Where,

$e^{((0.0251(T+460)-20.43)}$ = 0.4836

Criteria Totals

Pollutant Totals	Emissions (lb/hour)	Emissions (lb/day)	Emissions (lb/year)	Emissions (tn/year)
CO	**33.2**	**397.6**	**11935**	**6.0**
NO_x	**5.5**	**66**	**1980**	**1.0**
SO_x	**0.85**	**10.2**	**306**	**0.2**
VOC	**4.1**	**49.6**	**1489**	**0.7**
PM10	**6.0**	**72.3**	**2170**	**1.1**
TPM	**8.5**	**102.3**	**3070**	**1.5**

EL DORADO COUNTY
AIR QUALITY
MANAGEMENT DISTRICT
330 Fairlane Court
Placerville, CA 95667

AUTHORITY TO CONSTRUCT EVALUATION

APPLICATION NO.:	08-167
DATE:	May 23, 2016
EVALUATION BY:	AQE Lisa Petersen

A. FACILITY NAME: Tahoe Asphalt Inc.

B. LOCATION OF EQUIPMENT: 1104 Industrial Avenue, South Lake Tahoe

C. PROPOSAL

Tahoe Asphalt is proposing to replace an existing 1964 Hot Mix Asphalt Batch Mix Plant (HMA) with an updated 1980's model HMA Drum Mix Plant recently purchased.

D. INTRODUCTION

Tahoe Asphalt has acquired a Madsen Hot Mix Asphalt Drum Mix Plant controlled by a cyclone dust collector and baghouse. The plant was previously owned by Granite Construction and permitted in Sacramento Metropolitan Air Quality Management District (SMAQMD). The baghouse was purchased from Aggregate Systems and was previously permitted in San Joaquin Valley APCD. Both permits had considerably higher throughputs than Tahoe Asphalt's current permit limits which will remain unchanged.

E. EQUIPMENT DESCRIPTION

Powerstar Asphalt Concrete Plant (Model: SJPO/G1580F-011-06-12-0-00, Serial #: 913466)

A. Bins (4), Aggregate Storage, 13' x 10' x 14' High
B. Feeders (4), Aggregate, 24" x 8', 12 HP Total (3 HP each)
C. Conveyor, Aggregate, 30" x 90', 15 HP
D. Conveyor, Aggregate, 30" x 70', 20 HP
E. Drum-Mixer with "Rap Tube", 9' Dia x 49' L, 200 HP
F. Burner, Hauck SJPO/G1580 Powerstar (Low NOx), 120 MMBtu/Hr (Actual will be 65 MMBH according to the April 26, 2016 email from Southwest Gas.)
G. Blower, 7,900 SCFM, 100 HP
H. Hot Oil Circulation Pump, 2 HP
I. Asphalt Plum, 7.5 HP
J. Elevator, Bucket, Hot Asphalt, 40 HP
K. Conveyor, Slat, Hot Asphalt, 3' x 35', 30 HP
L. Conveyor, Slat, Hot Asphalt, 3' x 12', 25 HP
M. Compressor, Air, 10 HP
N. Silos (3), Hot Asphalt Storage, 11' dia x 35' H, 100 Tons Capacity, vented to mixer burner
O. Conveyor, Slinger, 7.5 HP

P. Recycle Bin, 13' x 10' x 14' H, 24" x 8', 3 HP
Q. Scalping Screen, 4' x 10', 5 HP
R. Scalping Screen, 3' x 5', 2 HP
S. Recycle Conveyor, 24" x 100', 10 HP
T. Recycle Conveyor, 24" x 10', 5 HP
U. Recycle Auger, 20 HP
V. Conveyor, Reject, 24" x 12', 5 HP
W. Conveyor, Reject, 24" x 75', 15 HP
X. Storage Silos Exhaust Recovery System Equipped with 3,000 CFM fan (5 HP)
Y. APC Baghouse, Magnum size 16.5, pulse jet type, 8,640 sq. ft. cloth filter area consisting of dust screw (5 HP), Fan (2 x 125 HP) and Madsen 60,000 ACFM Cyclone
Z. Liquid Asphalt Storage Tank with Heater, 30,000 Gal. Skid mounted tank. Heatec Hot Oil Heater Model HCS 230 (2.3 MMBtu/H – expected to operate at a maximum of 2 MMBH) SN: H-85-105.

F. CONTROL EQUIPMENT EVALUATION

Emissions control equipment that will be used in the HMA Plant includes a baghouse with cyclone, a low NOx burner on the Hauck Heater, and the silos will be vented to the mixer burner air inlet to control blue smoke from the silo filling and venting. Additionally, water sprays will be used on yards, stockpiles and transfer points.

G. PROCESS RATE

The annual process rate for the plant remains unchanged at 90,000 tons/year. The hourly throughput will be limited to 250 tons, and the daily throughput will remain at 3000 tons. A peak production rate of 250 tons per hour is what the plant is expected to do with a stable gas supply of 10 psi which is what the gas supplier, Southwest Gas, has stated may be the maximum that will be able to be provided (per May 9, 2016 email from Mike Plumer, Owner).

H. OPERATING SCHEDULE

The facility's operating schedule will remain the same – from May through October of each calendar year for a maximum of 12 hours per day on peak days.

I. EMISSIONS CALCULATIONS

The daily, quarterly and annual throughputs will remain unchanged. The hourly emissions, previously based on a maximum throughput of 168 TPH will be increased to 250 TPH, but this does not trigger BACT or Offsets which are based on daily and quarterly emissions.

1. HISTORIC ACTUAL EMISSIONS – FOR BACT PURPOSES (Rule 523.4.J)

BACT does not apply in this case since daily, quarterly and annual throughputs are remaining unchanged, and emissions will be reduced as a result of this modification. VOC, CO, SOx, PM10 and NOx emission factors are from a SMAQMD source test on the same plant but with a higher production capacity (4000 TPD and 250,000 TPQ).

2. HISTORIC POTENTIAL EMISSIONS – FOR OFFSET PURPOSES (Rule 523.4.M)

Offsets are not triggered – see numbers 5 and 6 below.

3. PROPOSED POTENTIAL TO EMIT

The new plant's hot asphalt storage silos will be vented to the mixer burner air inlet for control of blue smoke from the silos, but control efficiency was not applied to the potential emissions as the efficiency is unknown. AP-42 Chapter 11 tables for silo filling and truck load-out emissions were used in the Potential to Emit calculations.

SMAQMD's Authority to Construct the same plant for Granite Construction required source testing in August of 2005. This testing was based on a roughly 33% higher hourly capacity. The results showed significantly lower emission factors for VOC and NOx than AP-42 Chapter 11 Table 11.1-8 for Drum Mix Hot Mix Asphalt Plants. Source test results are more accurate and were therefore used as appropriate in the Potential to Emit calculations.

Production	Annual Potential to Emit (lb/yr)					
(tons/yr)	CO	NOx	SOx	VOC	TSP	PM10
90,000	**11,935**	**1980**	**306**	**1489**	**3070**	**2170**

	Daily Potential Emissions (lb/day)					
(tons/day)	CO	NOx	SOx	VOC	TSP	PM10
3,000	**398**	**66**	**11**	**50**	**103**	**73**

4. CALCULATION OF BACT TRIGGER (Rule 523.3.A)

Not applicable – see 3 above, no increase of emissions.

5. CALCULATION OF EMISSIONS OFFSET TRIGGER FOR ROC, NOx AND CO (Rule 523, New Source Review section 523.4.K)

Permit No(s)	Emissions Unit	Stationary Source Potential to Emit (pounds/quarter)		
		ROC	NOx	CO
08-167	Hot Mix Asphalt Batch Plant	745	990	5968
15-1123	Internal Combustion Engine	11	353	111
05-657	Aggregate Plant	0	0	0
Total		756	1343	6079
EDC Offset Trigger Level		5,000	5,000	7,500
US EPA Level of Significance for Attainment Pollutants*		20,000	20,000	50,000

6. CALCULATION OF EMISSION OFFSET TRIGGER FOR SOx AND PM10 (Rule 523, New Source Review section 523.4.L)

Permit No(s)	Emissions Unit	Stationary Source Potential to Emit (lb/qtr)	
		SOx	PM_{10}
08-167	Hot Mix Asphalt Batch Plant	153	1085
15-1123	Internal Combustion Engine	33	36
05-657	Aggregate Plant	0	545
Total		186	1666
EDC Offset Trigger Level		12,500	7,500
US EPA Level of Significance for Attainment Pollutants*		20,000	7,500

Offsets are not triggered.

J. COMPLIANCE WITH RULES AND REGULATIONS

1. CALIFORNIA HEALTH AND SAFETY CODE 42301.6

The proposed plant is not located within 1000 feet of the outer boundary of a K – 12 school. Therefore, the public noticing requirement of Health and Safety Code Section 42301.6 does not apply.

2. CALIFORNIA HEALTH AND SAFETY CODE 44300 - 44394 – AB2588 AIR TOXICS "HOT SPOTS" INFORMATION AND ASSESSMENT ACT OF 1987

Prioritization scores were calculated for receptor distances of between 100 - 250 meters; by the district for the old plant, and by Yorke Engineering for the new plant. All prioritization scores were below one and therefore, a refined Health Risk Assessment will not be requested.

The new plant, operating under the District's permit conditions, will be in compliance with applicable District rules. Therefore, impacts to air quality are expected to be less than significant.

3. NEW SOURCE REVIEW COMPLIANCE

Rule 523.3.A – Best Available Control Technology

Discussed in H.3. above.

Rule 523.3.B – Offset Requirements

Offsets are not required as shown in I.5 and 6 above.

Rule 523.3.H – CEQA Applicability

CEQA Compliance The district developed a comprehensive permitting *Guide to Air Quality Assessment* (Guide) CEQA Guidance document.

ROC and NO_x The significance levels for CEQA review are 82 lb/day of NO_x and 82 lb/day of ROC. The daily NO_x and ROC emissions for this plant are 66 and 50 pounds. Therefore, this permit application does not trigger CEQA review.

CO, PM10, and SO_x The District considers development projects for the type and size that fall below the significance levels of NO_x and ROC, to be insignificant also for CO, PM10 and SOx emissions (Section 6.3.1 of the Guide) for the purposes of CEQA review unless the project would generate trips by heavy-duty Diesel vehicles in greater proportion than such trips occur generally on public roadways. This project does not generate more vehicle trips of any kind.

Lead (Pb), Sulfates, and Hydrogen Sulfide (H_2S) These pollutants may be assumed to be insignificant except for industrial sources with specific processes which emit these pollutants.

2. PREVENTION OF SIGNIFICANT DETERIORATION (PSD) COMPLIANCE

Not applicable – applies only to construction permit applications for attainment

pollutants.

However, a source or modification triggers PSD if:

- Its potential to emit any one pollutant is greater than 100 tons/year (if one of the 28 selected industrial categories, including utility plants, steel plants, refineries, boilers >250 MMBtu/hr heat input) or greater than 250 tons/year (all other categories); and,
- The project's simultaneous emissions increase and net emissions increase for any pollutant is greater than the significance levels listed below:

Pollutant	Level of Significance (Tons/Yr)
CO	100
NO_x	40
SO_x	40
PM	25
PM10	15
PM2.5	10 (PM2.5) or 40 (SO2) or 40(NO)
Ozone	40 of NOx or VOCs
Lead	0.6
Fluorides	3
Sulfuric acid mist	7
H_2S	10
Total reduced sulfur (including H_2S)	10
Reduced sulfur compounds (including H_2S)	10
Greenhouse Gases (CO2e)	75,000

4. PROHIBITORY RULES COMPLIANCE

Rule 202 – Visible Emissions

Visible emissions from the baghouse and plant operations will be evaluated following the completion of this modification. Baghouse filter replacements will be required to be included as a recordkeeping item.

Rule 205 – Nuisance

The new HMA plant's emissions are not expected to create a nuisance. In fact the newer plant is stated to be an upgrade (from the previous 1964 batch plant) that will be safer, environmentally compliant and a cleaner operating plant that is expected to improve community relations.

Rule 210 – Specific Contaminants

Emissions are reduced by this Authority to Construct.

5. NSPS COMPLIANCE

40 CFR 60 Subpart I – Standards of Performance for Hot Mix Asphalt Facilities is applicable.

§ 60.92 – Standard for Particulate Matter states that no owner or operator subject to this subpart shall discharge into the atmosphere any gases which;

1. Contain particulate matter in excess of 90 mg/dscm or 0.04 grains/dscf; and
2. Exhibit 20 % opacity or greater.

District Rule 223, Fugitive Dust section 223.4.B states that a person shall not cause or allow PM10 levels to exceed 50 micrograms per cubic meter (0.02 grains/cubic foot) which is more stringent than § 60.92.1 so the Rule 223 limitation will be added to the permit. District Rule 202, Visible Emissions contains the same opacity limit and is a standard permit condition on all District permits for sources that produce fugitive emissions.

6. NESHAP COMPLIANCE

Not applicable – Subpart LLLLL- National Emission Standards for Hazardous Air Pollutants: Asphalt Processing and Asphalt Roofing Manufacturing applies to major sources.

K. RECOMMENDATIONS

The new plant is expected to comply with District, state and federal rules and regulations. Issuance of a conditional Authority to Construct is recommended.

REVIEWED BY: _____ DATE: 5/31/16

Potential to Emit - Throughput of 90,000 TPY, 3000 TPD and 250 TPH
PO 08-167 - Drum Mix Hot Mix Asphalt Plant with 2.3 MMBH Heater
Tahoe Asphalt, South Lake Tahoe

Parameter	HMA Plant	Hot Oil Heater (natural gas fired)
Throughput per Hour	250	2190
Units	tons	ft^3
Hours per Year	360	360
Throughput per Year	90,000	788,571

Particulate Matter Emission Factors for Drum Mix Hot Mix Asphalt Plants

Pollutant	EF (lb/ton product)	Emissions (lb/hour)	Emissions (lb/day)	Emissions (lb/yr)	Emission Factor Data Source	Comments
TPM	0.033	8.25	99	2970	AP-42 Table 11.1-3	dryer with fabric filter
PM10	0.023	5.75	69	2070	SMAQMD Source Test 8/31/05	

Emission Factors for CO, CO_2, NO_x and SO_2 from Drum Mix Hot Mix Asphalt Plants

Pollutant	EF (lb/ton HMA produced)	Emissions (lb/hour)	Emissions (lb/day)	Emissions (lb/yr)	Emission Factor Data Source	Comments
CO	0.13	32.5	390	11,700	SMAQMD Source Test 8/31/05	natural gas-fired dryer
CO_2	33	8,250	99,000	2,970,000		
NO_x	0.022	5.5	66	1,980		
SO_2	0.0034	0.85	10.2	306		

Emission Factors for TOC, Methane and VOC from Drum Mix Hot Mix Asphalt Plants

Pollutant	EF (lb/ton HMA produced)	Emissions (lb/hour)	Emissions (lb/day)	Emissions (lb/yr)	Emission Factor Data Source	Comments
TOC	0.044	11.00	132.0	3,960	AP-42 Table 11.1-8	natural gas-fired dryer
CH4	0.012	3.00	36.0	1,080		
VOC	0.0002	0.05	0.6	18	SMAQMD Source Test 8/31/05	

Emission Factors for Metal Emissions from Drum Mix Hot Mix Asphalt Plants

Pollutant	EF (lb/ton HMA produced)	Emissions (lb/hour)	Emissions (lb/day)	Emissions (lb/yr)	Emission Factor Data Source	Comments
Lead	6.20E-07	1.55E-04	1.86E-03	0.06	AP-42 Table 11.1-12	natural gas-fired dryer, fabric filter

Emission Factors for Hot Mix Asphalt Hot Oil Systems

Pollutant	EF (lb/ton)	Emissions (lb/hour)	Emissions (lb/day)	Emissions (lb/year)	Emission Factor Data Source	Comments
CO	8.90E-06	1.95E-02	5.40E-02	7.02	AP-42 Table 11.1-13	Natural Gas-fired hot oil system
CO_2	0.2	438	1213.2	157,714		

Predictive Emission Factor Equations for Load-Out and Silo Filling Operations

Pollutant	EF (lb/ton Mix Produced)	Emissions (lb/hour)	Emissions (lb/day)	Emissions (lb/year)	Emission Factor Data Source	Comments	V (Asphalt Volatility)	T(F)
Total PM*	5.22E-04	1.30E-01	1.57E+00	46.97	AP-42 Table 11.1-14	Load Out*	-0.5	325
TOC	4.16E-03	1.04E+00	1.25E+01	374.31			-0.5	325
CO	1.35E-03	3.37E-01	4.05E+00	121.43			-0.5	325
Total PM*	5.86E-04	1.46E-01	1.76E+00	52.73		Silo Filling	-0.5	325
TOC	1.22E-02	3.05E+00	3.66E+01	1,096.80			-0.5	325
CO	1.18E-03	2.95E-01	3.54E+00	106.20			-0.5	325

* Example Equation: $EF = 0.000181 + 0.00141(-V)e^{((0.0251(T+460)-20.43)}$

Where,

$e^{((0.0251(T+460)-20.43)}$ = 0.4836

Criteria Totals

Pollutant Totals	Emissions (lb/hour)	Emissions (lb/day)	Emissions (lb/year)	Emissions (ton/year)
CO	**33.2**	**397.6**	**11935**	**6.0**
NO_x	**5.5**	**66**	**1980**	**1.0**
SO_x	**0.85**	**10.2**	**306**	**0.2**
VOC	**4.1**	**49.6**	**1489**	**0.7**
PM10	**6.0**	**72.3**	**2170**	**1.1**
TPM	**8.5**	**102.3**	**3070**	**1.5**

TAHOE ASPHALT

Asphalt Batch Plant Emissions (Batch Mix Hot Mix, Natural Gas or #2 Fuel Oil-Fired with Fabric Baghouse)

Use this spreadsheet when the emissions are from a Batch Mix Hot Mix Natural Gas or #2 Fuel Oil-Fired Asphalt Plant. The emissions here do not include emissions from Asphalt Storage, Asphalt Dust, and Aggregate Piles units. These units are covered by other spreadsheets. Entries required in yellow areas, output in green areas.

Inputs	tons/hr	tons/yr			
Process Rate Asphalt produced	2.50E+02	90000			
Substance	**CAS#**	**lbs/ton***	**LB/HR**	**LB/YR**	
2-Methyl naphthalene	**91576**	7.10E-05	1.78E-02	6.39E+00	11.1-9 (PAH)
Acenaphthene	**83329**	9.00E-07	2.25E-04	8.10E-02	11.1-9 (PAH)
Acenaphthylene	**208968**	5.80E-07	1.45E-04	5.22E-02	11.1-9 (PAH)
Acetaldehyde	**75070**	3.20E-04	8.00E-02	2.88E+01	11.1-9
Anthracene	**120127**	2.10E-07	5.25E-05	1.89E-02	11.1-9 (PAH)
Arsenic	**7440382**	4.60E-07	1.15E-04	4.14E-02	11.1-11
Barium	**7440393**	1.50E-06	3.75E-04	1.35E-01	11.1-11
Benzene	**71432**	2.80E-04	7.00E-02	2.52E+01	11.1-9
Benzo(a)anthracene	**56553**	4.60E-09	1.15E-06	4.14E-04	11.1-9 (PAH)
Benzo(a)pyrene	**50328**	3.10E-10	7.75E-08	2.79E-05	11.1-9 (PAH)
Benzo(b)fluoranthene	**205992**	9.40E-09	2.35E-06	8.46E-04	11.1-9 (PAH)
Benzo(g,h,i)perylene	**191242**	5.00E-10	1.25E-07	4.50E-05	11.1-9 (PAH)
Benzo(k)fluoranthene	**207089**	1.30E-08	3.25E-06	1.17E-03	11.1-9 (PAH)
Beryllium	**7440417**	1.50E-07	3.75E-05	1.35E-02	11.1-11
Cadmium	**7440439**	6.10E-07	1.53E-04	5.49E-02	11.1-11
Chromium	**7440473**	5.70E-07	1.43E-04	5.13E-02	11.1-11
Chrysene	**218019**	3.80E-09	9.50E-07	3.42E-04	11.1-9 (PAH)
Copper	**7440508**	2.80E-06	7.00E-04	2.52E-01	11.1-11
Crotonaldehyde	**4170303**	2.90E-05	7.25E-03	2.61E+00	Not listed in Contable
Dibenz(a,h)anthracene	**53703**	9.50E-11	2.38E-08	8.55E-06	11.1-9 (PAH)
Ethylbenzene	**100414**	2.20E-03	5.50E-01	1.98E+02	11.1-9
Fluorene	**86737**	1.60E-06	4.00E-04	1.44E-01	11.1-9 (PAH)
Fluoranthene	**206440**	1.60E-07	4.00E-05	1.44E-02	11.1-9 (PAH)
Formaldehyde	**50000**	7.40E-04	1.85E-01	6.66E+01	11.1-9
Hexvalent Chromium	**18540299**	4.80E-08	1.20E-05	4.32E-03	11.1-11
Indeno(1,2,3-cd)pyrene	**193395**	3.00E-10	7.50E-08	2.70E-05	11.1-9 (PAH)
Isobutyraldehyde	**78842**	3.00E-05	7.50E-03	2.70E+00	Not listed in Contable
Lead	**7439921**	8.90E-07	2.23E-04	8.01E-02	11.1-11
Manganese	**7439965**	6.90E-06	1.73E-03	6.21E-01	11.1-11
Mercury	**7439976**	4.10E-07	1.03E-04	3.69E-02	11.1-11
Naphthalene	**91203**	3.60E-05	9.00E-03	3.24E+00	11.1-9 (PAH)
Nickel	**7440020**	3.00E-06	7.50E-04	2.70E-01	11.1-11
Phenanthrene	**85018**	2.60E-06	6.50E-04	2.34E-01	11.1-9 (PAH)
Pyrene	**129000**	6.20E-08	1.55E-05	5.58E-03	11.1-9 (PAH)
Quinone	**106514**	2.70E-04	6.75E-02	2.43E+01	11.1-9
Selenium	**7782492**	4.90E-07	1.23E-04	4.41E-02	11.1-11
Toluene	**108883**	1.00E-03	2.50E-01	9.00E+01	11.1-9
Xylene (mixed xylenes)	**1330207**	2.70E-03	6.75E-01	2.43E+02	11.1-9
Zinc	**7440666**	6.80E-06	1.70E-03	6.12E-01	11.1-11

References:
*Emission factors are from AP 42 Chapter 11 Mineral Products Industry, Section 1 Hot Mix Asphalt Plants, tables 11.1-9 and 11.1-11

Potential to Emit - Throughput of 80,000 TPY, 2000 TPD and 250 TPH

PO 05- 657 - Aggregate Plant

Tahoe Asphalt, South Lake Tahoe

Source	Throughput (tons/yr)	TPM EF (lb/ton)	PM10 EF (lb/ton)	PM2.5 EF (lb/ton)	TPM (lb/hr)	TPM (lb/yr)	TPM (tn/yr)	PM10 (lb/hr)	PM10 (lb/yr)	PM10 (tn/yr)	PM2.5 (lb/hr)	PM2.5 (lb/yr)	PM2.5 (tn/yr)
Feed Hopper	**80,000**	3.36E-05	1.60E-05	ND	0.008	2.7	0.001	0.004	1.3	0.001	ND	ND	ND
Feed Conveyor	**80,000**	1.40E-04	4.60E-05	1.30E-05	0.035	11.2	0.006	0.012	3.7	0.002	0.003	1.0	0.001
Screen	**80,000**	2.20E-03	7.40E-04	5.00E-05	0.550	176.0	0.088	0.185	59.2	0.030	0.013	4.0	0.002
Undersize Conveyor	**80,000**	1.40E-04	4.60E-05	1.30E-05	0.035	11.2	0.006	0.012	3.7	0.002	0.003	1.0	0.001
Oversize Conveyor	**80,000**	1.40E-04	4.60E-05	1.30E-05	0.035	11.2	0.006	0.012	3.7	0.002	0.003	1.0	0.001
Truck Loading	**80,000**	2.10E-04	1.00E-04	1.30E-05	0.053	16.8	0.008	0.025	8.0	0.004	0.003	1.0	0.001
					0.7	**229.1**	0.1	0.2	**79.5**	0.0	0.0	**8.2**	0.0

Notes:

1. Emission factors (controlled) from AP-42, Section 11.19.2-2, 8/04. ND = No data.
2. Per aggregate PO 05-657 Actual Emissions Spreadsheet note #2 "AP-42, Table 11.19.2-2, note c - emission factors for TSP can be estimated by multiplying the PM-10 emission factor by 2.1." (1/95)
3. Tahoe Asphalt uses water controls - controlled EFs are used.
4. Maximum hourly throughput is based on maximum hourly capacity - 250 tons/hr.

Tahoe Asphalt

Aggregate (Sand & Gravel) PM_{10}

Use this spreadsheet to calculate PM_{10} emissions generated from Aggregate Plant operations (Crushing, Screening, and Transfer Points). Entries required in yellow areas, output in green areas.

Inputs	lb/hr	lb/yr
PM_{10} Process Rate	2.00E-01	229

Substance	CAS#	Wt Fraction Aggregate*	Aggregate LB/HR	Aggregate LB/YR	
Aluminum	7429905	1.50E-02	3.00E-03	3.44E-03	Not listed in Contable
Arsenic	7440382	2.20E-05	4.40E-06	5.04E-03	
Barium	7440393	2.25E-04	4.50E-05	5.15E-02	
Beryllium	7440417	1.00E-06	2.00E-07	2.29E-04	
Cadmium	7440439	1.00E-06	2.00E-07	2.29E-04	
Chromium	7440473	2.80E-05	5.60E-06	6.41E-03	
Cobalt	7440484	1.10E-05	2.20E-06	2.52E-03	
Copper	7440508	3.70E-05	7.40E-06	8.47E-03	
Hexavalent Chromium^	18540299	1.40E-06	2.80E-07	3.21E-04	
Lead	7439921	5.00E-05	1.00E-05	1.15E-02	
Manganese	7439965	5.30E-04	1.06E-04	1.21E-01	
Nickel	7440020	2.80E-05	5.60E-06	6.41E-03	
Selenium	7782492	1.00E-06	2.00E-07	2.29E-04	
Crystalline Silica**	1175	1.00E-01	2.00E-02	2.29E-01	
Zinc	7440666	9.90E-05	1.98E-05	2.27E-02	

References:

* Most emission factors were taken from a table called, "DEFAULT VALUES - TRACE METAL CONCENTRATIONS" in the San Diego Air Pollution Control District document, "Aggregate Crushing Operations" (last modified Dec. 31, 1998)

^ 5% assumption of 28 e-6 of Non Hexavalent Chromium

**Crystalline Silica may conservatively be assumed to be 10% of PM10 - Report to the Natural Resources Board: Silical Study - from Wisconsin Dept. of Natural Resources page 13. Has only a chronic risk in the contable.

2013 Potential Emissions Inventory
PO 15-1123 - Diesel Powered Generator
Tahoe Asphalt, South Lake Tahoe

Rating (hp)	Operating Hours (hr/yr)	Emission Factors (lb/hr)					Potential Emissions (tons/yr)				
		CO	NOx	VOC	SOx	TSP	CO	NOx	VOC	SOx	TSP
80	200	0.551	1.762	0.055	0.164	0.176	**0.06**	**0.18**	**0.01**	**0.02**	**0.02**

Notes:
1. Emission factors for Sox and TSP from AP-42, Section 3.3, 1/96, adjusted to pounds per hour.
2. Emission factors for CO, NOx, VOC from manufacturer, adjusted to pounds per hour.
3. Operating hours are based on permitted hours.

Potential Emissions (pounds/yr)

CO	NOx	VOC	SOx	TSP
110.2	**352.4**	**11.0**	**32.8**	**35.2**

Potential to Emit - Throughput Lowered to 90,000 TPY

Batch Mix Hot Mix Asphalt Plant, Criteria Pollutants

Tahoe Asphalt, South Lake Tahoe

Permit No.	HMA Production (tons/yr)	Emission Factors (lb/ton of HMA)					Potential and Actual Emissions (tons/yr)					
		CO	NOx	SOx	VOC	TSP	CO	NOx	SOx	VOC	TSP	PM10
08-167	**46,000**	**0.4**	**0.025**	**0.0046**	**0.0082**	**0.042**	**9.2**	**0.58**	**0.11**	**0.19**	**0.97**	**0.2254**
	50,000	0.4	0.025	0.0046	0.0082	0.042	10	0.63	0.12	0.21	1.05	0.245
	90,000	**0.4**	**0.025**	**0.0046**	**0.0082**	**0.042**	**18**	**1.13**	**0.21**	**0.37**	**1.89**	**0.441**
	100,000	0.4	0.025	0.0046	0.0082	0.042	20	1.25	0.23	0.41	2.1	0.49

Notes:

1. Emission factors for Batch Mix Hot Asphalt Plants from AP-42, Section 11.1, 3/04.
2. HMA = Hot Mix Asphalt
3. Highest Production Year - 1986 ~ 46,000 tons, Previous PTE = 100,000 TPY
4. PM10 Emission factor for Batch Mix Hot Asphalt Plants from AP-42, Section 11.1, 3/04 = 0.0098.

Toxics Note: A throughput of 50,000 was used in the toxics assessment in response to the 2013 Tahoe Asphalt complaint. 50,000 represents an 8.5% increase rounded up over Tahoe Asphalt's highest throughput on file.

Potential and Actual Emissions (pounds/yr)

CO	NOx	SOx	VOC	TSP	PM10
18400	**1150**	**211.6**	**377.2**	**1932**	**450.8**
20000	1250	230	410	2100	490
36000	**2250**	**414**	**738**	**3780**	**882**
40000	2500	460	820	4200	980

HMA Potential to Emit (Tons/Hour): 168

Maximum Pounds per Hour

CO	NOx	SOx	VOC	TSP	PM10
67.20	4.20	0.77	1.38	7.06	1.65

Daily Potential Emissions (Lbs/Day) – Unchanged

(tons/day)	CO	NOx	SOx	VOC	TSP	PM10
3,000	**1200**	**75**	**13.8**	~~24.6~~	**126**	**29.4**

75 with Slg Load Out
LP 5/25/16

TAHOE ASPHALT

Asphalt Batch Plant Emissions (Batch Mix Hot Mix, Natural Gas or #2 Fuel Oil-Fired with Fabric Baghouse)

Use this spreadsheet when the emissions are from a Batch Mix Hot Mix Natural Gas or #2 Fuel Oil-Fired Asphalt Plant. The emissions here do not include emissions from Asphalt Storage, Asphalt Dust, and Aggregate Piles units. These units are covered by other spreadsheets. Entries required in yellow areas, output in grey areas.

Inputs	tons/hr	tons/yr		
Process Rate Asphalt produced	1.68E+02	90000		
Substance	**CAS#**	**lbs/ton***	**LB/HR**	**LB/YR**
2-Methyl naphthalene	**91576**	7.10E-05	1.19E-02	6.39E+00
Acenaphthene	**83329**	9.00E-07	1.51E-04	8.10E-02
Acenaphthylene	**208968**	5.80E-07	9.74E-05	5.22E-02
Acetaldehyde	**75070**	3.20E-04	5.38E-02	2.88E+01
Anthracene	**120127**	2.10E-07	3.53E-05	1.89E-02
Arsenic	**7440382**	4.60E-07	7.73E-05	4.14E-02
Barium	**7440393**	1.50E-06	2.52E-04	1.35E-01
Benzene	**71432**	2.80E-04	4.70E-02	2.52E+01
Benzo(a)anthracene	**56553**	4.60E-09	7.73E-07	4.14E-04
Benzo(a)pyrene	**50328**	3.10E-10	5.21E-08	2.79E-05
Benzo(b)fluoranthene	**205992**	9.40E-09	1.58E-06	8.46E-04
Benzo(g,h,i)perylene	**191242**	5.00E-10	8.40E-08	4.50E-05
Benzo(k)fluoranthene	**207089**	1.30E-08	2.18E-06	1.17E-03
Beryllium	**7440417**	1.50E-07	2.52E-05	1.35E-02
Cadmium	**7440439**	6.10E-07	1.02E-04	5.49E-02
Chromium	**7440473**	5.70E-07	9.58E-05	5.13E-02
Chrysene	**218019**	3.80E-09	6.38E-07	3.42E-04
Copper	**7440508**	2.80E-06	4.70E-04	2.52E-01
Crotonaldehyde	**4170303**	2.90E-05	4.87E-03	2.61E+00
Dibenz(a,h)anthracene	**53703**	9.50E-11	1.60E-08	8.55E-06
Ethylbenzene	**100414**	2.20E-03	3.70E-01	1.98E+02
Fluorene	**86737**	1.60E-06	2.69E-04	1.44E-01
Fluoranthene	**206440**	1.60E-07	2.69E-05	1.44E-02
Formaldehyde	**50000**	7.40E-04	1.24E-01	6.66E+01
Hexvalent Chromium	**18540299**	4.80E-08	8.06E-06	4.32E-03
Indeno(1,2,3-cd)pyrene	**193395**	3.00E-10	5.04E-08	2.70E-05
Isobutyraldehyde	**78842**	3.00E-05	5.04E-03	2.70E+00
Lead	**7439921**	8.90E-07	1.50E-04	8.01E-02
Manganese	**7439965**	6.90E-06	1.16E-03	6.21E-01
Mercury	**7439976**	4.10E-07	6.89E-05	3.69E-02
Naphthalene	**91203**	3.60E-05	6.05E-03	3.24E+00
Nickel	**7440020**	3.00E-06	5.04E-04	2.70E-01
Phenanthrene	**85018**	2.60E-06	4.37E-04	2.34E-01
Pyrene	**129000**	6.20E-08	1.04E-05	5.58E-03
Quinone	**106514**	2.70E-04	4.54E-02	2.43E+01
Selenium	**7782492**	4.90E-07	8.23E-05	4.41E-02
Toluene	**108883**	1.00E-03	1.68E-01	9.00E+01
Xylene (mixed xylenes)	**1330207**	2.70E-03	4.54E-01	2.43E+02
Zinc	**7440666**	6.80E-06	1.14E-03	6.12E-01

References:

*Emission factors are from AP 42 Chapter 11 Mineral Products Industry, Section 1 Hot Mix Asphalt Plants, tables 11.1-9 and 11.1-11

2013 Potential Emissions Inventory
Diesel Powered Generator
Tahoe Asphalt, South Lake Tahoe

Permit No.	Rating (hp)	Operating Hours (hr/yr)	Emission Factors (lb/hr)					Potential Emissions (tons/yr)				
			CO	NOx	VOC	SOx	TSP	CO	NOx	VOC	SOx	TSP
15-1123	80	200	0.551	1.762	0.055	0.164	0.176	**0.06**	**0.18**	**0.01**	**0.02**	**0.02**

Notes:
1. Emission factors for Sox and TSP from AP-42, Section 3.3, 1/96, adjusted to pounds per hour
2. Emission factors for CO, NOx, VOC from manufacturer, adjusted to pounds per hour
3. Operating hours are based on allowedmaintenance hours.

Toxics Note: Assume all PM is PM10 for purposes of Toxic Prioritization.

Potential Emissions (pounds/yr)				
CO	NOx	VOC	SOx	TSP
110.2	**352.4**	**11.0**	**32.8**	**35.2**

Potential to Emit - Reduced Throughput to 90,000 TPY
Aggregate Plant
Tahoe Asphalt, South Lake Tahoe

Permit No.	Source	Throughput (tons/yr)	TPM Emission Factor (lb/ton)	PM10 Emission Factor (lb/ton)	Control Efficiency (%)	PM10 Potential Emissions Particulate Matter (lb/yr)	PM10 Potential Emissions Particulate Matter (tons/yr)	PM10 Potential Emissions Estimate for Prioritization (lb/Hr)
05-657	Feed Hopper	**90,000**	3.36E-05	1.60E-05	0.0	1.4	0.001	0.002
	Feed Conveyor	**90,000**	3.00E-03	1.10E-03	0.0	99.0	0.050	0.158
	Screen	**90,000**	2.50E-02	8.70E-03	0.0	783.0	0.392	1.253
	Undersize Conveyor	**90,000**	3.00E-03	1.10E-03	0.0	99.0	0.050	0.158
	Oversize Conveyor	**90,000**	3.00E-03	1.10E-03	0.0	99.0	0.050	0.158
	Truck Loading	**90,000**	2.10E-04	1.00E-04	0.0	9.0	0.005	0.014
Totals				0.0121		1,090.4	**0.545**	1.7

Notes:
1. Emission factors (uncontrolled) from AP-42, Section 11.19.2-2, 8/04.
2. Per aggregate PO 05-657 Actual Emissions Spreadsheet note #2 "AP-42, Table 11.19.2-2, note c - emission factors for TSP can be estimated by multiplying the PM-10 emission factor by 2.1." (1/95)
3. Tahoe Asphalt uses water controls - but the worst case scenario or uncontrolled EFs are used here.
4. Maximum hourly throughput is based on maximum hourly asphalt throughput - 120 tons/hr.

Tahoe Asphalt

Aggregate (Sand & Gravel) PM_{10}

Use this spreadsheet to calculate PM_{10} emissions generated from Aggregate Plant operations (Crushing, Screening, and Transfer Points). Entries required in yellow areas, output in grey areas.

Inputs	lb/hr	lb/yr
PM_{10} Process Rate	3.00	1105.00

Substance	CAS#	Wt Fraction Aggregate*	Aggregate LB/HR	Aggregate LB/YR
Aluminum	7429905	1.50E-02	4.50E-02	1.66E+01
Arsenic	7440382	2.20E-05	6.60E-05	2.43E-02
Barium	7440393	2.25E-04	6.75E-04	2.49E-01
Beryllium	7440417	1.00E-06	3.00E-06	1.11E-03
Cadmium	7440439	1.00E-06	3.00E-06	1.11E-03
Chromium	7440473	2.80E-05	8.40E-05	3.09E-02
Cobalt	7440484	1.10E-05	3.30E-05	1.22E-02
Copper	7440508	3.70E-05	1.11E-04	4.09E-02
Hexavalent Chromium^	18540299	1.40E-06	4.20E-06	1.55E-03
Lead	7439921	5.00E-05	1.50E-04	5.53E-02
Manganese	7439965	5.30E-04	1.59E-03	5.86E-01
Nickel	7440020	2.80E-05	8.40E-05	3.09E-02
Selenium	7782492	1.00E-06	3.00E-06	1.11E-03
Crystalline Silica**	1175	1.00E-01	3.00E-01	1.11E+02
Zinc	7440666	9.90E-05	2.97E-04	1.09E-01

References:

* Most emission factors were taken from a table called, "DEFAULT VALUES - TRACE METAL CONCENTRATIONS" in the San Diego Air Pollution Control District document, "Aggregate Crushing Operations" (last modified Dec. 31, 1998)

^ 5% assumption of 28 e-6 of Non Hexavalent Chromium

**Crystalline Silica may conservatively be assumed to be 10% of PM10 - Report to the Natural Resources Board: Silical Study - from Wisconsin Dept. of Natural Resources page 13. Has only a chronic risk in the contable.

ELECTRONIC CODE OF FEDERAL REGULATIONS

e-CFR Data is current as of August 28, 2014

Title 40 → Chapter I → Subchapter C → Part 63 → Subpart AAAAAAA

Title 40: Protection of Environment
PART 63—NATIONAL EMISSION STANDARDS FOR HAZARDOUS AIR POLLUTANTS FOR SOURCE CATEGORIES (CONTINUED)

Subpart AAAAAAA—National Emission Standards for Hazardous Air Pollutants for Area Sources: Asphalt Processing and Asphalt Roofing Manufacturing

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SOURCE: 74 FR 63260, Dec. 2, 2009, unless otherwise noted.

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APPLICABILITY AND COMPLIANCE DATES

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Tahoe Asphalt – no blowing stills so not subject to AAAAAAA

§63.11559 Am I subject to this subpart?

(a) You are subject to this subpart if you own or operate an asphalt processing operation and/or asphalt roofing manufacturing operation that is an area source of hazardous air pollutant (HAP) emissions, as defined in §63.2.

(b) This subpart applies to each new or existing affected source as defined in paragraphs (b)(1) and (b)(2) of this section.

(1) *Asphalt processing.* The affected source for asphalt processing operations is the collection of all blowing stills, as defined in §63.11566, at an asphalt processing operation.

(2) *Asphalt roofing manufacturing.* The affected source for asphalt roofing manufacturing operations is the collection of all asphalt coating equipment, as defined in §63.11566, at an asphalt roofing manufacturing operation.

(c) This subpart does not apply to hot mix asphalt plant operations that are used in the paving of roads or hardstand, or operations where asphalt may be used in the fabrication of a built-up roof.

(d) An affected source is a new affected source if you commenced construction or reconstruction after July 9, 2009.

(e) An affected source is reconstructed if it meets the criteria as defined in §63.2.

(f) An affected source is an existing source if it is not new or reconstructed.

(g) This subpart does not apply to research or laboratory facilities, as defined in section 112(c)(7) of the Clean Air Act.

(h) You are exempt from the obligation to obtain a permit under 40 CFR part 70 or 40 CFR part 71, provided you are not otherwise required to obtain a permit under 40 CFR 70.3(a) or 40 CFR 71.3 (a). Notwithstanding the previous sentence, you must continue to comply with the provisions of this subpart.

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§63.11560 What are my compliance dates?

(a) If you own or operate an existing affected source, you must be in compliance with the applicable provisions in this subpart no later than December 2, 2010. As specified in §63.11562(f), you must demonstrate initial compliance within 180 calendar days after December 2, 2010.

(b) If you own or operate a new affected source, you must be in compliance with the provisions in this subpart on or before December 2, 2009 or upon startup, whichever date is later. As specified in §63.11562(g), you must demonstrate initial compliance with the applicable emission limits no later than 180 calendar days after December 2, 2009 or within 180 calendar days after startup of the source, whichever is later.

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STANDARDS AND COMPLIANCE REQUIREMENTS

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§63.11561 What are my standards and management practices?

(a) For asphalt processing operations, you must meet the emission limits specified in Table 1 of this subpart.

(b) For asphalt roofing manufacturing lines, you must meet the applicable emission limits specified in Table 2 of this subpart.

(c) These standards apply at all times.

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§63.11562 What are my initial compliance requirements?

(a) For asphalt processing operations, you must:

(1) Demonstrate initial compliance with the emission limits specified in Table 1 of this subpart by:

(i) Conducting emission tests using the methods specified in Table 3 of this subpart; or

(ii) Using the results of a previously-conducted emission test as specified in paragraph (d) of this section.

(2) Establish the value or range of values of the operating parameters specified in Table 4 of this subpart:

(i) Using the operating parameter data recorded during the compliance emission tests; or

(ii) Using the operating parameter data recorded during a previously-conducted emission test.

(b) For asphalt roofing manufacturing lines that use a control device to comply with the emission limits in Table 2 of this subpart, you must:

(1) Demonstrate initial compliance by:

(i) Conducting emission tests using the methods specified in Table 3 of this subpart; or

(ii) Using the results of a previously-conducted emission test as specified in paragraph (d) of this section.

(2) Establish the value of the operating parameter specified in Table 4 of this subpart for thermal oxidizers:

(i) Using the operating parameter data recorded during the compliance emission tests; or

(ii) Using the operating parameter data recorded during a previously-conducted emission test.

(3) Establish the value or range of values of the operating parameters specified in Table 4 of this subpart for control devices other than thermal oxidizers:

(i) Using the operating parameter data recorded during the compliance emission tests;

(ii) Using the operating parameter data recorded during a previously-conducted emission test; or

(iii) Using manufacturer performance specifications.

(c) For asphalt roofing manufacturing lines that do not require a control device to comply with the emission limits in Table 2 of this subpart, you must:

(1) Demonstrate initial compliance by:

(i) Conducting emission tests using the methods specified in Table 3 of this subpart,

(ii) Using the results of a previously-conducted emission test as specified in paragraph (d) of this section; or

(iii) Using process knowledge and engineering calculations as specified in paragraph (e) of this section.

(2) Establish the value or range of values of the operating parameters specified in Table 4 of this subpart:

(i) Using the operating parameter data recorded during the compliance emission tests;

(ii) Using the operating parameter data recorded during a previously-conducted emission test; or

(iii) Using process knowledge and engineering calculations as specified in paragraph (f) of this section.

(d) If you are using a previously-conducted emission test to demonstrate compliance with the emission limitations in this subpart for existing sources, as specified in paragraphs (a)(1)(ii), (b)(1)(ii), or (c)(1)(ii) of this section, the following conditions must be met:

(1) The emission test was conducted within the last 5 years;

(2) No changes have been made to the process since the time of the emission test;

(3) The operating conditions and test methods used for the previous test conform to the requirements of this subpart; and

(4) The data used to establish the value or range of values of the operating parameters, as specified in paragraphs (a)(2)(ii), (b)(2)(ii), or (c)(2)(ii) of this section, were recorded during the emission test.

(e) If you are using process knowledge and engineering calculations to demonstrate initial compliance as specified in paragraph (c)(1)(iii) of this section, you must prepare written documentation that contains the data and any assumptions used to calculate the process emission rate that demonstrate compliance with the emission limits specified in Table 2 of this subpart.

(f) If you are using process knowledge and engineering calculations to establish the value or range of values of operating parameters as specified in paragraph (c)(2)(iii) of this section, you must prepare written documentation that contains the data and any assumptions used to show that the process parameters and corresponding parameter values correlate to the process emissions.

(g) For existing sources, you must demonstrate initial compliance no later than 180 calendar days after December 2, 2010.

(h) For new sources, you must demonstrate initial compliance no later than 180 calendar days after December 2, 2009 or within 180 calendar days after startup of the source, whichever is later.

(i) For emission tests conducted to demonstrate initial compliance with the emission limits specified in Tables 1 and 2 of this subpart, you must follow the requirements specified in paragraphs (i)(1) through (i)(4) of this section.

(1) You must conduct the tests while manufacturing the product that generates the greatest PAH and PM emissions to the control device inlet, or exiting the process if you are not using a control device to comply with the emissions limits specified in Tables 1 and 2 of this subpart.

(2) You must conduct a minimum of three separate test runs for each compliance test specified in paragraphs (a)(1)(i), (b)(1)(i), and (c)(1)(i) of this section according to the requirements specified in §63.7(e)(3). The sampling time and sample volume of each test run must be as follows:

(i) For asphalt processing operations, the sampling time and sample volume for each test run must be at least 90 minutes or the duration of the coating blow or non-coating blow, whichever is greater, and 2.25 dscm (79.4 dscf).

(ii) For asphalt coating operations, the sampling time and sample volume for each test run must be at least 120 minutes and 3.00 dscm (106 dscf).

(3) For asphalt processing operations, you must use the following equations to calculate the asphalt charging rate (P).

(i) $P = (Vd)/(K' \Theta)$

Where:

P = asphalt charging rate to blowing still, Mg/hr (ton/hr).

V = volume of asphalt charged, m^3 (ft^3).

d = density of asphalt, kg/m^3 (lb/ft^3).

K′ = conversion factor, 1000 kg/Mg (2000 lb/ton).

Θ = duration of test run, hr.

(ii) $d = K_1 - K_2 T_i$

Where:

d = Density of the asphalt, kg/m^3 (lb/ft^3)

$d = K_1 - K_2 T_i$

K_1 = 1056.1 kg/m^3 (metric units)

= 66.6147 lb/ft^3 (English Units)

K_2 = 0.6176 $kg/(m^3 \cdot °C)$ (metric units)

= 0.02149 $lb/(ft^3 \cdot °F)$ (English Units)

T_i = temperature at the start of the blow, °C (°F)

(4) You must use the following equation to demonstrate compliance with the emission limits specified in Table 2 of this subpart:

$E = [(C)*(Q)/(P)*(K)]$

Where:

E = emission rate of particulate matter, kg/Mg (lb/ton).

C = concentration of particulate matter, g/dscm (gr/dscf).

Q = volumetric flow rate of effluent gas, dscm/hr (dscf/hr).

P = the average asphalt roofing production rate or asphalt charging rate over the duration of the test, Mg/hr (ton/hr).

K = conversion factor, 1000 g/kg [7000 (gr/lb)].

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§63.11563 What are my monitoring requirements?

(a) You must maintain the operating parameters established under §63.11562(a)(2), (b)(2), (b)(3), and (c)(2) as specified in Table 4 of this subpart.

(b) If you are using a control device to comply with the emission limits specified in Tables 1 and 2 of this subpart, you must develop and make available for inspection by the delegated authority, upon request, a site-specific monitoring plan for each monitoring system that addresses the following:

(1) Installation of the CPMS probe or other interface at a measurement location relative to each affected process unit such that the measurement is representative of control of the exhaust emissions (*e.g.,* on or downstream of the last control device);

(2) Performance and equipment specifications for the probe or interface, the pollutant concentration or parametric signal analyzer, and the data collection and reduction system; and

(3) Performance evaluation procedures and acceptance criteria (*e.g.,* calibrations).

(i) In your site-specific monitoring plan, you must also address the following:

(A) Ongoing operation and maintenance procedures in accordance with the general requirements of §63.8(c)(1), (c)(3), (c)(4)(ii), (c)(7), and (c)(8);

(B) Ongoing data quality assurance procedures in accordance with the general requirements of §63.8(d); and

(C) Ongoing recordkeeping and reporting procedures in accordance with the general requirements of §63.10(c), (e)(1), and (e)(2)(i).

(c) If you are using a control device to comply with the emission limits specified in Tables 1 and 2 of this subpart, you must install, operate, and maintain a continuous parameter monitoring system (CPMS) as specified in paragraphs (c)(1) through (c)(3) of this section.

(1) The CPMS must complete a minimum of one cycle of operation for each successive 15-minute period.

(2) To determine the 3-hour average, you must:

(i) Have a minimum of four successive cycles of operation to have a valid hour of data.

(ii) Have valid data from at least three of four equally spaced data values for that hour from a CPMS that is not out-of-control according to your site-specific monitoring plan.

(iii) Determine the 3-hour average of all recorded readings for each operating day, except as stated in paragraph (g) of this section. You must have at least two of the three hourly averages for that period using only hourly average values that are based on valid data (*i.e.,* not from out-of-control periods).

(3) You must record the results of each inspection, calibration, and validation check of the CPMS.

(d) For each temperature monitoring device, you must meet the CPMS requirements in paragraphs (c)(1) through (c)(3) of this section and the following requirements:

(1) Locate the temperature sensor in a position that provides a representative temperature.

(2) For a noncryogenic temperature range, use a temperature sensor with a minimum measurement sensitivity of 2.8 °C or 1.0 percent of the temperature value, whichever is larger.

(3) If a chart recorder is used, the recorder sensitivity in the minor division must be at least 20 °F.

(4) Perform an accuracy check at least semiannually or following an operating parameter deviation:

(i) According to the procedures in the manufacturer's documentation; or

(ii) By comparing the sensor output to redundant sensor output; or

(iii) By comparing the sensor output to the output from a calibrated temperature measurement device; or

(iv) By comparing the sensor output to the output from a temperature simulator.

(5) Conduct accuracy checks any time the sensor exceeds the manufacturer's specified maximum operating temperature range or install a new temperature sensor.

(6) At least quarterly or following an operating parameter deviation, perform visual inspections of components if redundant sensors are not used.

(e) For each pressure measurement device, you must meet the CPMS requirements of paragraphs (e)(1) through (e)(6) of this section and the following requirements:

(1) Locate the pressure sensor(s) in, or as close as possible, to a position that provides a representative measurement of the pressure.

(2) Use a gauge with a minimum measurement sensitivity of 0.12 kiloPascals or a transducer with a minimum measurement sensitivity of 5 percent of the pressure range.

(3) Check pressure tap for blockage daily. Perform an accuracy check at least quarterly or following an operating parameter deviation:

(i) According to the manufacturer's procedures; or

(ii) By comparing the sensor output to redundant sensor output.

(4) Conduct calibration checks any time the sensor exceeds the manufacturer's specified maximum operating pressure range or install a new pressure sensor.

(5) At least monthly or following an operating parameter deviation, perform a leak check of all components for integrity, all electrical connections for continuity, and all mechanical connections for leakage.

(6) At least quarterly or following an operating parameter deviation, perform visible inspections on all components if redundant sensors are not used.

(f) For each electrostatic precipitator (ESP) used to control emissions, you must install and operate a CPMS that meets the requirements of paragraphs (c)(1) through (c)(3) of this section to provide representative measurements of the voltage supplied to the ESP.

(g) If you are not using a control device to comply with the emission limits specified in Tables 1 and 2 of this subpart, you must develop and make available for inspection by the delegated authority, upon request, a site-specific monitoring plan. The plan must specify the process parameters established during the initial compliance assessment and how they are being monitored and maintained to demonstrate continuous compliance.

(h) If you would like to use parameters or means other than those specified in Table 4 of this subpart to demonstrate continuous compliance with the emission limits specified in Tables 1 and 2 of this subpart, you must apply to the Administrator for approval of an alternative monitoring plan under §63.8(f). The plan must specify how process parameters established during the initial compliance assessment will be monitored and maintained to demonstrate continuous compliance.

(i) At all times the owner or operator must operate and maintain any affected source, including associated air pollution control equipment and monitoring equipment, in a manner consistent with safety and good air pollution control practices for minimizing emissions. The general duty to minimize emissions does not require the owner or operator to make any further efforts to reduce emissions if levels required by this standard have been achieved. Determination of whether such operation and

maintenance procedures are being used will be based on information available to the Administrator which may include, but is not limited to, monitoring results, review of operation and maintenance procedures, review of operation and maintenance records, and inspection of the source.

(j) You must conduct a performance evaluation of each CPMS in accordance with your site-specific monitoring plan.

(k) You must operate and maintain the CPMS in continuous operation according to the site-specific monitoring plan.

[74 FR 63260, Dec. 2, 2009, as amended at 75 FR 12989, Mar. 18, 2010]

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§63.11564 What are my notification, recordkeeping, and reporting requirements?

(a) You must submit the notifications specified in paragraphs (a)(1) through (a)(6) of this section.

(1) You must submit all of the notifications in §§63.5(b), 63.7(b); 63.8(e) and (f); 63.9(b) through (e); and 63.9(g) and (h) that apply to you by the dates specified in those sections.

(2) As specified in §63.9(b)(2), if you have an existing affected source, you must submit an Initial Notification not later than 120 calendar days after December 2, 2009.

(3) As specified in §63.9(b)(4) and (5), if you have a new affected source, you must submit an Initial Notification not later than 120 calendar days after you become subject to this subpart.

(4) You must submit a notification of intent to conduct a compliance test at least 60 calendar days before the compliance test is scheduled to begin, as required in §63.7(b)(1).

(5) You must submit a Notification of Compliance Status according to §63.9(h)(2)(ii). You must submit the Notification of Compliance Status, including the compliance test results, before the close of business on the 60th calendar day following the completion of the compliance test according to §63.10 (d)(2).

(6) If you are using data from a previously-conducted emission test to serve as documentation of compliance with the emission standards and operating limits of this subpart, you must submit the test data in lieu of the initial compliance test results with the Notification of Compliance Status required under paragraph (a)(5) of this section.

(b) You must submit a compliance report as specified in paragraphs (b)(1) through (b)(4) of this section.

(1) If you are using a control device to comply with the emission limits, the compliance report must identify the controlled units (*e.g.,* blowing stills, saturators, coating mixers, coaters). If you are not using a control device to comply with the emission limits, the compliance report must identify the site-specific process operating parameters monitored to determine compliance with the emission limits.

(2) During periods for which there are no deviations from any emission limitations (emission limit or operating limit) that apply to you, the compliance report must contain the information specified in paragraphs (b)(2)(i) through (b)(2)(v) of this section.

(i) Company name and address.

(ii) Statement by a responsible official with that official's name, title, and signature, certifying the truth, accuracy, and completeness of the content of the report.

(iii) Date of report and beginning and ending dates of the reporting period.

(iv) A statement that there were no deviations from the emission limitations during the reporting period.

(v) If there were no periods during which the CPMS was out-of-control as specified in §63.8(c)(7), a statement that there were no periods during which the CPMS was out-of-control during the reporting period.

(3) For each deviation from an emission limitation (emission limit and operating limit), you must include the information in paragraphs (b)(3)(i) through (b)(3)(xii) of this section.

(i) The date and time that each deviation started and stopped.

(ii) The date and time that each CPMS was inoperative, except for zero (low-level) and high-level checks.

(iii) The date, time and duration that each CPMS was out-of-control, including the information in §63.8(c)(8).

(iv) The date and time that each deviation started and stopped, and whether each deviation occurred during a period of startup, shutdown, or malfunction or during another period.

(v) A summary of the total duration of the deviation during the reporting period and the total duration as a percent of the total source operating time during that reporting period.

(vi) A breakdown of the total duration of the deviations during the reporting period into those that are due to startup, shutdown, control equipment problems, process problems, other known causes, and other unknown causes.

(vii) A summary of the total duration of CPMS downtime during the reporting period and the total duration of CPMS downtime as a percent of the total source operating time during that reporting period.

(viii) An identification of each air pollutant that was monitored at the affected source.

(ix) A brief description of the process units.

(x) A brief description of the CPMS.

(xi) The date of the latest CPMS certification or audit.

(xii) A description of any changes in CPMS or controls since the last reporting period.

(4) Unless the Administrator has approved a different schedule for submission of reports under §63.10(a), you must submit each report specified in paragraph (b) of this section according to the following dates:

(i) The first compliance report must cover the period beginning on the compliance date that is specified for your affected source in §63.11560 and ending on June 30 or December 31, whichever date is the first date following the end of the first calendar half after the compliance date that is specified for your source in §63.11560.

(ii) The first compliance report must be postmarked or delivered no later than July 31 or January 31, whichever date follows the end of the first calendar half after the compliance date that is specified for your affected source in §63.11560.

(iii) Each subsequent compliance report must cover the semiannual reporting period from January 1 through June 30 or the semiannual reporting period from July 1 through December 31.

(iv) Each subsequent compliance report must be postmarked or delivered no later than July 31 or January 31, whichever date is the first date following the end of the semiannual reporting period.

(c) You must maintain the records specified in paragraphs (c)(1) through (c)(10) of this section.

(1) A copy of each notification and report that you submitted to comply with this subpart, including all documentation supporting any Initial Notification or Notification of Compliance Status that you submitted, according to the requirements in §63.10(b)(2)(xiv).

(2) Copies of emission tests used to demonstrate compliance and performance evaluations as required in §63.10(b)(2)(viii).

(3) Documentation that shows that the following conditions are true if you use a previously-conducted emission test to demonstrate initial compliance as specified in §63.11562(a)(1)(ii), (b)(1)(ii), and (c)(1)(ii):

(i) The test was conducted within the last 5 years;

(ii) No changes have been made to the process since the time of the emission test;

(iii) The operating conditions and test methods used for the previous test conform to the requirements of this subpart; and

(iv) The data used to establish the value or range of values of the operating parameters, as specified in §63.11562(a)(2)(ii), (b)(2)(ii), or (c)(2)(ii), were recorded during the emission test.

(4) Documentation that identifies the operating parameters and values specified in Table 4 of this subpart and that contains the data used to establish the parameter values as specified in §63.11562 (a)(2), (b)(2), (b)(3), or (c)(2).

(5) Copies of the written manufacturers performance specifications used to establish operating parameter values as specified in §63.11562(b)(3)(iii).

(6) Documentation of the process knowledge and engineering calculations used to demonstrate initial compliance as specified in §63.11562(e).

(7) Documentation of the process knowledge and engineering calculations used to establish the value or range of values of operating parameters as specified in §63.11562(f).

(8) A copy of the site-specific monitoring plan required under §63.11563(b) or (g).

(9) A copy of the approved alternative monitoring plan required under §63.11563(h), if applicable.

(10) Records of the operating parameter values required in Table 4 of this subpart to show continuous compliance with each operating limit that applies to you.

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OTHER REQUIREMENTS AND INFORMATION

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§63.11565 What general provisions sections apply to this subpart?

You must comply with the requirements of the General Provisions (40 CFR part 63, subpart A) according to Table 5 of this subpart.

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§63.11566 What definitions apply to this subpart?

Asphalt coating equipment means the saturators, coating mixers, and coaters used to apply asphalt to substrate to manufacture roofing products (*e.g.,* shingles, roll roofing).

Asphalt flux means the organic residual material from distillation of crude oil that is generally used in asphalt roofing manufacturing and paving and non-paving asphalt products.

Asphalt processing operation means any operation engaged in the preparation of asphalt flux at stand-alone asphalt processing facilities, petroleum refineries, and asphalt roofing facilities. Asphalt preparation, called "blowing," is the oxidation of asphalt flux, achieved by bubbling air through the heated asphalt, to raise the softening point and to reduce penetration of the oxidized asphalt. An asphalt processing facility includes one or more asphalt flux blowing stills.

Asphalt roofing manufacturing operation means the collection of equipment used to manufacture asphalt roofing products through a series of sequential process steps. The equipment configuration of an asphalt roofing manufacturing process varies depending upon the type of substrate used (*i.e.,* organic or inorganic). For example, an asphalt roofing manufacturing line that uses organic substrate (*e.g.,* felt) typically would consist of a saturator (and wet looper), coating mixer, and coater (although the saturator could be bypassed if the line manufacturers multiple types of products). An asphalt roofing manufacturing line that uses inorganic (fiberglass mat) substrate typically would consist of a coating mixer and coater.

Blowing still means the equipment in which air is blown through asphalt flux to change the softening point and penetration rate of the asphalt flux, creating oxidized asphalt.

Built-up roofing operations means operations involved in the on-site (*e.g.,* at a commercial building) assembly of roofing system components (*e.g.,* asphalt, substrate, surface granules).

Coater means the equipment used to apply amended (filled or modified) asphalt to the top and bottom of the substrate (typically fiberglass mat) used to manufacture shingles and rolled roofing products.

Coating mixer means the equipment used to mix coating asphalt and a mineral stabilizer, prior to applying the stabilized coating asphalt to the substrate.

Hot-mix asphalt operation means operations involved in mixing asphalt cement and aggregates to produce materials for paving roadways and hardstand (*e.g.,* vehicle parking lots, prepared surfaces for materiel storage).

Particulate matter (PM) means, for the purposes of this subpart, includes any material determined gravimetrically using EPA Method 5A—Determination of Particulate Matter Emissions From the Asphalt Processing And Asphalt Roofing Industry (40 CFR part 60, appendix A-3).

Responsible official is defined in §63.2.

Saturator means the equipment used to impregnate a substrate (predominantly organic felt) with asphalt. Saturators are predominantly used for the manufacture of rolled-roofing products (*e.g.,* saturated felt). For the purposes of this subpart, the term saturator includes impregnation vat and wet looper.

Wet looper means the series of rollers typically following the saturator used to provide additional absorption time for asphalt to penetrate the roofing substrate.

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§63.11567 Who implements and enforces this subpart?

(a) This subpart can be implemented and enforced by us, the U.S. Environmental Protection Agency (U.S. EPA), or a delegated authority such as your State, local, or Tribal agency. If the U.S. EPA Administrator has delegated authority to your State, local, or Tribal agency, then that agency, in addition to the U.S. EPA, has the authority to implement and enforce this subpart. You should contact your U.S. EPA Regional Office to find out if implementation and enforcement of this subpart is delegated.

(b) In delegating implementation and enforcement authority of this subpart to a State, local, or Tribal agency under 40 CFR part 63, subpart E, the following authorities are retained by the Administrator of U.S. EPA:

(1) Approval of alternatives to the requirements in §§63.11559, 63.11560, 63.11561, 63.11562, and 63.11563.

(2) Approval of major changes to test methods under §63.7(e)(2)(ii) and (f) and as defined in §63.90.

(3) Approval of major changes to monitoring under §63.8(f) and as defined in §63.90.

(4) Approval of major changes to recordkeeping and reporting under §63.10(f) and as defined in §63.90.

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Table 1 of Subpart AAAAAAA of Part 63—Emission Limits for Asphalt Processing (Refining) Operations

For * * *	You must meet the following emission limits * * *
1. Blowing stills	a. Limit PAH emissions to 0.003 lb/ton of asphalt charged to the blowing stills; or
	b. Limit PM emissions to 1.2 lb/ton of asphalt charged to the blowing stills.

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Table 2 of Subpart AAAAAAA of Part 63—Emission Limits for Asphalt Roofing Manufacturing (Coating) Operations

For * * *	
1. Coater-only production lines	a. Limit PAH emissions to 0.0002 lb/ton of asphalt roofing product manufactured; or
	b. Limit PM emissions to 0.06 lb/ton of asphalt roofing product manufactured.
2. Saturator-only production lines	a. Limit PAH emissions to 0.0007 lb/ton of asphalt roofing product manufactured; or
	b. Limit PM emissions to 0.30 lb/ton of asphalt roofing product manufactured.
3. Combined saturator/coater production lines	a. Limit PAH emissions to 0.0009 lb/ton of asphalt roofing product manufactured; or
	b. Limit PM emissions to 0.36 lb/ton of asphalt roofing product manufactured.

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Table 3 of Subpart AAAAAAA of Part 63—Test Methods

For * * *	You must use * * *
	EPA test method 1 or 1A in appendix A to part 60.

1. Selecting the sampling locations[a] and the number of traverse points	
2. Determining the velocity and volumetric flow rate	EPA test method 2, 2A, 2C, 2D, 2F, or 2G, as appropriate, in appendix A to part 60.
3. Determining the gas molecular weight used for flow rate determination	EPA test method 3, 3A, 3B, as appropriate, in appendix A to part 60.
4. Measuring the moisture content of the stack gas	EPA test method 4 in appendix A to part 60.
5. Measuring the PM emissions	EPA test method 5A in appendix A to part 60.
6. Measuring the PAH emissions	EPA test method 23[b] with analysis by SW-846 Method 8270D.

[a]The sampling locations must be located at the outlet of the process equipment (or control device, if applicable), prior to any releases to the atmosphere.

[b]When using EPA Method 23, the toluene extraction step specified in section 3.1.2.1 of the method should be omitted.

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Table 4 of Subpart AAAAAAA of Part 63—Operating Limits

If you comply with the emission limits using * * *	You must establish an operating value for * * *	And maintain[a] * * *
1. A thermal oxidizer	Combustion zone temperature	The 3-hour average combustion zone temperature at or above the operating value established as specified in §63.11562(a)(2) and (b)(2).
2. A high-efficiency air filter or fiber bed filter	a. Inlet gas temperature[b], and b. Pressure drop across device[b]	The 3-hour average inlet gas temperature within the operating range established as specified in §63.11562(a)(2) and (b)(3). The 3-hour average pressure drop across the device within the approved operating range established as specified in §63.11562(a)(2) and (b)(3).
3. An electrostatic precipitator (ESP)	Voltage[c] to the ESP	The 3-hour average ESP voltage[c] at or above the approved operating value established as specified in §63.11562(a)(2) and (b)(3).
4. Process modifications (*i.e.*, a control device is not required)	Appropriate process monitoring parameters.[d]	The monitoring parameters within the operating values established as specified in §63.11562(c)(2).

[a]The 3-hour averaging period applies at all times other than startup and shutdown, as defined in §63.2. Within 24 hours of a startup event, or 24 hours prior to a shutdown event, you must normalize the emissions that occur during the startup or shutdown, when there is no production rate available to assess compliance with the lb/ton of product emission limits, with emissions that occur when the process is operational. The emissions that occur during the startup or shutdown event must be included with the process emissions when assessing compliance with the emission limits specified in Tables 1 and 2 of this subpart.

[b]As an alternative to monitoring the inlet gas temperature and pressure drop, you can use a leak detection system that identifies when the filter media has been comprised.

[c]As an alternative to monitoring the ESP voltage, you can monitor the ESP instrumentation (*e.g.* light, alarm) that indicates when the ESP must be cleaned and maintain a record of the instrumentation on an hourly basis. Failure to service the ESP within one hour of the indication is an exceedance of the applicable monitoring requirements specified in §63.11563(a).

[d]If you are not using a control device to comply with the emission limits specified in Table 2 of this subpart, the process parameters and corresponding parameter values that you select to demonstrate continuous compliance must correlate to the process emissions.

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Table 5 of Subpart AAAAAAA of Part 63—Applicability of General Provisions to Subpart AAAAAAA

Citation	Subject	Applies to subpart AAAAAAA
§63.1	Applicability	Yes.
§63.2	Definitions	Yes.
§63.3	Units and Abbreviations	Yes.
§63.4	Prohibited Activities	Yes.
§63.5	Construction/Reconstruction	Yes.
§63.6(a)-(d)	Compliance With Standards and Maintenance Requirements	Yes.
§63.6(e)(1)(i)	Operation and Maintenance Requirements	No.
§63.6(e)(1)(ii)	Operation and Maintenance Requirements	No.
§63.6(e)(1)(iii)	Operation and Maintenance Requirements	Yes.
§63.6(e)(2)	[Reserved]	
§63.6(e)(3)	Startup, Shutdown, and Malfunction Plan	No. Subpart AAAAAAA does not require startup, shutdown, and malfunction plans.
§63.6(f)(1)	Compliance with Nonopacity Emission Standards	No. The emission limits apply at all times.
§63.6(f)(2)-(3)	Methods for Determining Compliance and Finding of Compliance	Yes.
§63.6(h)	Opacity/Visible Emission (VE) Standards	No. Subpart AAAAAAA does not contain opacity or VE standards.
§63.6(i)	Compliance Extension	Yes.
§63.6(j)	Presidential Compliance Exemption	Yes.
§63.7(a)-(d)	Performance Testing Requirements	Yes.
§63.7(e)(1)	Performance Testing Requirements	No. Subpart AAAAAAA specifies the conditions under which performance tests must be conducted.
§63.7(e)(2)-(4)	Conduct of Performance Tests and Data Reduction	Yes.
§63.7(f)-(h)	Use of Alternative Test Method; Data Analysis, Recordkeeping, and Reporting; and Waiver of Performance Tests	Yes.
§63.8(a)(1)	Applicability of Monitoring Requirements	Yes.
§63.8(a)(2)	Performance Specifications	No. Subpart AAAAAAA does not allow CEMS.

§63.8(a)(3)	[Reserved]	
§63.8(a)(4)	Monitoring with Flares	Yes.
§63.8(b)(1)	Conduct of Monitoring	Yes.
§63.8(b)(2)-(3)	Multiple Effluents and Multiple Monitoring Systems	Yes.
§63.8(c)(1)	Monitoring System Operation and Maintenance	Yes.
§63.8(c)(1)(i)	CMS maintenance	Yes.
§63.8(c)(1)(ii)	Spare Parts for CMS Malfunction	Yes.
§63.8(c)(1)(iii)	Compliance with Operation and Maintenance Requirements	No. Subpart AAAAAAA does not require startup, shutdown, and malfunction plans.
§63.8(c)(2)-(3)	Monitoring System Installation	Yes.
§63.8(c)(4)	CMS Requirements	No; §63.11563 specifies the CMS requirements.
§63.8(c)(5)	COMS Minimum Procedures	No. Subpart AAAAAAA does not contain opacity or VE standards.
§63.8(c)(6)	CMS Requirements	No; §63.11563 specifies the CMS requirements.
§63.8(c)(7)-(8)	CMS Requirements	Yes.
§63.8(d)	CMS Quality Control	No; §63.11563 specifies the CMS requirements.
§63.8(e)-(f)	CMS Performance Evaluation	Yes.
§63.8(g)(1)-(4)	Data Reduction Requirements	Yes.
§63.8(g)(5)	Data to Exclude from Averaging	No. All monitoring data must be included when calculating averages.
§63.9	Notification Requirements	Yes.
§63.10(a)	Recordkeeping and Reporting Requirements—Applicability	Yes.
§63.10(b)(1)	General Recordkeeping Requirements	Yes.
§63.10(b)(2)(i)-(iii)	General Recordkeeping Requirements	Yes.
§63.10(b)(2)(iv)-(v)	Records of Actions Taken During Startup, Shutdown, and Malfunction Plans	No. Subpart AAAAAAA does not require startup, shutdown, and malfunction plans.
§63.10(b)(2)(vi)-(xiv)	General Recordkeeping Requirements	Yes.
§63.10(c)(1)-(14)	Additional Recordkeeping Requirements for Sources with Continuous Monitoring Systems	Yes.
§63.10(c)(15)	Additional Recordkeeping Requirements for Sources with Continuous Monitoring Systems	No. Subpart AAAAAAA does not require startup, shutdown, and malfunction plans.
§63.10(d)(1)-(4)	General Reporting Requirements	Yes.
§63.10(d)(5)	Periodic Startup, Shutdown, and Malfunction Reports	No. Subpart AAAAAAA does not require startup, shutdown, and malfunction plans.

§63.10(e)	Additional Reporting Requirements for Sources with Continuous Monitoring Systems	Yes.
§63.10(f)	Waiver of Recordkeeping or Reporting Requirements	Yes.
§63.11	Control Device and Work Practice Requirements	Yes.
§63.12	State Authority and Delegations	Yes.
§63.13	Addresses of State Air Pollution Control Agencies and EPA Regional Offices	Yes.
§63.14	Incorporations by Reference	Yes.
§63.15	Availability of Information and Confidentiality	Yes.
§63.16	Performance Track Provisions	No.

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Asphalt Air Blowing Process

Pilot Test Plant

The physical properties of asphalts may further be modified by 'air blowing'. This is an oxidation process which involves the blowing of air through the asphalts, either on a batch or a continuous basis, with the short residue at a temperature of 240°C to 320°C.

Description of the continuous blowing process

After preheating, the short residue is introduced into the blowing column just below the normal liquid level. Air is blown through the bitumen by means of an air distributor located at the bottom of the column. The air is not only the reactant but also serves to agitate and mix the bitumen, thereby increasing the surface area and rate of reaction. Oxygen is consumed by the bitumen as the air ascends through the material. Steam and water are sprayed into the vapour space above the bitumen level, the former to suppress foaming and dilate the oxygen content of waste gases and the latter cools the vapours to prevent after-burning. The "blown" product flows from the bottom of the blowing column into a surge drum via an external draw-off line. In this way the minimum level of product in the blowing column is controlled.

From the surge drum the blown product is passed through heat exchangers to achieve the desired "rundown" temperatures and to provide an economical means of preheating the short residue, before pumping the product to storage. The penetration and softening point of the blown bitumen are affected by:

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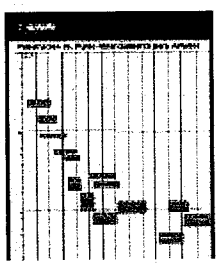
* the viscosity of the feedstock
* the temperature in the blowing column
* the residence time in the blowing column
* the origin of the crude oil used to manufacture the feedstock
* the air-to-feed ratio

The blowing process dehydrogenates the short residue, resulting in oxidation and polycondensation, increasing the overall molecular size of the asphaltenes already present in the feed and forming additional asphaltenes from the maltene phase. The reaction is exothermic. Therefore close temperature control of this process is required, which is achieved by regulating the air-to-short residue ratio in the blowing column.

Air-rectified or semi-blown bitumens

To produce penetration grade bitumens suitable for road construction, bitumens manufactured from some crudes require a limited amount of air blowing. This process is termed semi-blowing or air rectification. Used judiciously, semi-blowing can be applied to reduce the temperature susceptibility of the bitumen, ie increase its penetration index.



Fully blown bitumens

Fully blown or oxidised bitumens are produced by vigorous air-blowing of short residue or short residue blended with a heavy distillate. The position of the blowing curve is primarily dependent on the viscosity of the feed, ie the softer the feed the higher the curve. The severity of blowing depends on the temperature in the column and to a lesser extent on the residence time. Thus by controlling the viscosity of the feed and the conditions in the column all the blown grades of bitumen can be manufactured.

Oxidized bitumens

Oxidized bitumens are used almost entirely for industrial applications; eg roofing, flooring mastics, pipe coatings, paints, etc, and are specified and designated by both softening point and penetration tests, eg 85/40 is an oxidized grade bitumen with a softening point of 85+-5 ºC and a penetration of 40 +- 5.

The chemistry of the blowing process

The aim of the blowing process is theformation of asphaltenes. Three phenomena can be identified:

* Reactions during which the size of the molecules increases; formation of esters is particularly important; they not only account for about 60% of the oxygen in blown bitumen but also link up two different molecules and thus contribute to the formation of material of higher molecular weight; this mechanism results in an increase in the asphaltene content and a change in the colloid-chemical constitution and rheological properties of the bitumen

* Reactions during which the size of the molecule is unchanged; formation of cyclic hydrocarbons by means of dehydrogenation with H2O as a side product

* Reactions during which the size of the molecule decreases; separation of side branches from the molecules with blown distillate produced as a side product.

e-asphalt.com will be happy to quote special machines or proyect plant on receipt of details of composition of the product, etc.

More Information Send Mail to: info@e-asfalto.com

TELFAX: 005411-4754-9374 / 5931-8045 / 5931-8727

330 Fairlane Court

EL DORADO COUNTY
AIR QUALITY
MANAGEMENT DISTRICT

Placerville, CA 95667

AUTHORITY TO CONSTRUCT EVALUATION

APPLICATION NO.:	08-167
DATE:	October 16, 2013
EVALUATION BY:	Air Quality Engineer/LP

A. FACILITY NAME: Tahoe Asphalt Inc.

B. LOCATION OF EQUIPMENT: 1104 Industrial Avenue, South Lake Tahoe

C. PROPOSAL

LP

Tahoe Asphalt is proposing to modify an existing Hot Mix Asphalt Batch Plant (HMA) pugmill/truck load-out process to catch and divert fugitive asphalt fumes generated during truck load-out.

D. INTRODUCTION

midway through the year Russ said the curtains may be installed at a later time

Tahoe Asphalt will install an exhaust inlet, fan, ductwork and curtains around the pugmill and truck load-out to capture and divert fugitive emissions to the existing baghouse. The modification to the emissions control system is intended to reduce odors and relocate the point of emissions/effluent farther away from the nearby residents. As part of this permit modification, Tahoe Asphalt has agreed to accept a permit condition stating the maximum temperature of the Aggregate Drier is 400°F.

E. EQUIPMENT DESCRIPTION

Capture System for Asphalt Load-Out

Blower Fan

Manufacturer:	CENTRI-PAC owned by Loren Cook Co.
Model:	210 CK
Horsepower:	5.0
Capacity:	6794 CFM
Pipe/Duct Size:	12-26"
Curtains/Shroud:	Size TBD

Aggregate Drier

Aggregate Drier Max. Temp.:	400 °F
Drier Type:	Counterflow

Hot Oil Heater

Hot Oil Heater Max. Temp.:	450 °F

F. CONTROL EQUIPMENT EVALUATION

The captured emissions from this modification will be passed through the existing baghouse.

The baghouse is designed to capture particulate emissions which should provide some amount of abatement capacity to asphalt cement fumes or odors. The diversion of the bulk of the pugmill and load-out fugitive emissions to the baghouse is not intended to abate VOCs.

G. PROCESS RATE

Process rates from the facility will remain the same with no increases to Potential Emissions requested. However, the facility has agreed to lower the Permit Limit of 100,000 tons/year to 90,000 tons/year.

A permit condition will limit the facility to an average hourly limit of 144 tons/hour to be calculated by taking the arithmetic mean, or the daily tonnage processed divided by the number of hours of operation on that calendar day. The facility may process a maximum of 168 tons/hour for up to 4 hours per day as long as the average hourly rate for the day is less than or equal to 144 tons. This will be added as a permit condition.

The maximum daily throughput capacity has been estimated by the facility General Manager to be 3000 tons. This will be added as a permit condition.

H. OPERATING SCHEDULE

The facility's operating schedule will remain the same – from May through October of each calendar year.

I. EMISSIONS CALCULATIONS

There are no emissions increases resulting from the granting of this Authority to Construct. The facility is accepting a new throughput permit limit of 90,000 tons/year. The previous throughput limit was 100,000 tons per year.

1. HISTORIC ACTUAL EMISSIONS – FOR BACT PURPOSES (Rule 523.4.J)

Rule 523.4.J states:
"CALCULATION OF EMISSIONS - BACT: The emissions change for a new or modified emissions unit shall be calculated by subtracting historic actual emissions from proposed emissions. Calculations shall be performed separately for each emissions unit for each calendar quarter."

BACT does not apply in this case since no emissions units are being modified. Fugitive emissions from truck load-out will be captured and diverted to the baghouse in the attempt to reduce odors.

2. HISTORIC POTENTIAL EMISSIONS – FOR OFFSET PURPOSES (Rule 523.4.M)

The facility is accepting a lower annual throughput limit for asphalt production but the emissions units are not being modified. Offsets are not triggered since subtracting the historic potential emissions from proposed potential emissions results in a negative number.

Production	Historic Potential to Emit (Lbs/Yr)					
(tons/yr)	CO	NOx	SOx	VOC	TSP	PM10
100,000	40000	2500	460	820	4200	980

3. PROPOSED POTENTIAL TO EMIT

The daily and hourly asphalt throughput and therefore, emissions are unchanged.

Production	Annual Potential to Emit (Lbs/Yr)					
(tons/yr)	CO	NOx	SOx	VOC	TSP	PM10
90,000	**36000**	**2250**	**414**	~~738~~ 74	**3780**	**882**
Pounds Reduced	4000	250	46	82	420	98

	Daily Potential Emissions (Lbs/Day) – Unchanged					
(tons/day)	CO	NOx	SOx	VOC	TSP	PM10
3,000	**1200**	**75**	**13.8**	~~24.6~~ 75 Including Silo filling + truck load out LP 5/26/16	**126**	**29.4**

4. CALCULATION OF BACT TRIGGER (Rule 523.3.A)

   Not applicable – no increase of emissions.

5. CALCULATION OF EMISSIONS OFFSET TRIGGER FOR ROC, NOx AND CO (Rule 523, New Source Review section 523.4.K)

Permit No(s)	Emissions Unit	Stationary Source Potential to Emit (pounds/quarter)		
		ROC	NOx	CO
08-167	Hot Mix Asphalt Batch Plant	369	1125	18,000
15-1123	Internal Combustion Engine	11	353	111
05-657	Aggregate Plant	0	0	0
Total		380	1478	18,111
EDC Offset Trigger Level		5,000	5,000	7,500[1]
US EPA Level of Significance for Attainment Pollutants*		20,000	20,000	50,000

6. CALCULATION OF EMISSION OFFSET TRIGGER FOR SOx AND PM10 (Rule 523, New Source Review section 523.4.L)

Permit No(s)	Emissions Unit	Stationary Source Potential to Emit (lb/qtr)	
		SOx	PM_{10}
08-167	Hot Mix Asphalt Batch Plant	207	441
15-1123	Internal Combustion Engine	33	36
05-657	Aggregate Plant	0	545
Total		240	1022
EDC Offset Trigger Level		12,500	7,500
US EPA Level of Significance for Attainment Pollutants*		20,000	7,500

* The Tahoe Air Basin was classified in 2012 as being in Attainment (or Unclassified) with the National Ambient Air Quality Standards for 8-Hour Ozone, CO, PM10, PM2.5, NO2, SO2 and Lead, therefore the Prevention of Significant Deterioration (PSD) Levels of Significance are listed for reference.

1 The federal Level of Significance for carbon monoxide is 100 tons/year for construction permit applications according to the Prevention of Significant Deterioration regulation. Air basins in El Dorado County are in attainment of federal and state air quality standards for carbon monoxide. Pending Rule 523 amendments will change the offset threshold for carbon monoxide to be consistent with federal and neighboring air district rules.

The AQMD historical engineering analyses and permit development determined that offsets were not required. The current analysis evaluates the recommended and proposed modification rather than a new emissions source. This project involves no change to actual emissions and a reduction in the Potential to Emit emissions.

J. COMPLIANCE WITH RULES AND REGULATIONS

1. CALIFORNIA HEALTH AND SAFETY CODE 42301.6

The proposed process is not located within 1000 feet of the outer boundary of a K – 12 school. Therefore, the public noticing requirement of Health and Safety Code Section 42301.6 does not apply.

2. NEW SOURCE REVIEW COMPLIANCE

No emissions change from this project expected other than improved dispersion of fumes/odors.

Rule 523.3.A – Best Available Control Technology

Not applicable.

Rule 523.3.B – Offset Requirements

Offsets are not required.

Rule 523.3.H – CEQA Applicability

CEQA Compliance The EDC AQMD has developed a comprehensive permitting *Guide to Air Quality Assessment* (Guide) CEQA Guidance document.

ROC and NO_x The significance levels for CEQA review are 82 lb/day of NO_x and 82 lb/day of ROC. The daily NO_x and ROC emissions for this project are unchanged and below these levels since the potential to emit of 2000 tons per day results in 77 pounds NOx and 26 pounds ROC. Therefore, this permit application does not trigger CEQA review.

CO, PM10, and SO_x The District considers development projects for the type and size that fall below the significance levels of NO_x and ROC, to be insignificant also for CO, PM10 and SOx emissions (Section 6.3.1 of the Guide) for the purposes of CEQA review unless the project would generate trips by heavy-duty Diesel vehicles in greater proportion than such trips occur generally on public roadways. This project does not generate more vehicle trips of any kind.

Lead (Pb), Sulfates, and Hydrogen Sulfide (H_2S) These pollutants may be assumed to be insignificant except for industrial sources with specific processes which emit these pollutants.

3. PREVENTION OF SIGNIFICANT DETERIORATION (PSD) COMPLIANCE

Not applicable – applies only to construction permit applications for attainment pollutants.

However, a source or modification triggers PSD if:

- Its potential to emit any one pollutant is greater than 100 tons/year (if one of the 28 selected industrial categories, including utility plants, steel plants, refineries, boilers

>250 MMBtu/hr heat input) or greater than 250 tons/year (all other categories); and,

- The project's simultaneous emissions increase and net emissions increase for any pollutant is greater than the significance levels listed below:

Pollutant	Level of Significance (Tons/Yr)
CO	100
NO_x	40
SO_x	40
PM	25
PM10	15
PM2.5	10 (PM2.5) or 40 (SO2) or 40(NO)
Ozone	40 of NOx or VOCs
Lead	0.6
Fluorides	3
Sulfuric acid mist	7
H_2S	10
Total reduced sulfur (including H_2S)	10
Reduced sulfur compounds (including H_2S)	10
Greenhouse Gases (CO2e)	75,000

4. PROHIBITORY RULES COMPLIANCE

Rule 202 – Visible Emissions

Visible emissions from the baghouse and operations creating fugitive emissions will be evaluated following the completion of this exhaust system modification. Baghouse filter replacements will be required to be included as a recordkeeping item.

Rule 205 – Nuisance

The facility has undertaken this project in response to odor complaints received by the District during 2013. It is not known definitively why the facility's odors were perceived by a nearby resident to be worse this year relative to recent years; however there was a substantial amount of street work involving the laying of asphalt from May through October in the areas around, and in South Lake Tahoe. This information was reported by District inspectors who routinely conduct inspections throughout the higher elevations of El Dorado County during the warmer months of the year.

Last year's throughput data from the facility indicated that 2012 was a relatively high production year (43,000 tons) – yet no complaints were received. The complainant has been located at the same residence for a number of years, but this year is the first that he has complained to the District about asphalt odors. It is possible that the odors are from multiple surrounding areas of road work in addition to the near-by facility.

This project to capture, divert and better disperse truck load-out fugitive emissions is designed to reduce odors and relocate the point of emissions/effluent farther away from the nearby residents.

Rule 210 – Specific Contaminants

Emissions are unchanged by this Authority to Construct.

5. NSPS COMPLIANCE

40 CFR 60 Subpart I – Standards of Performance for Hot Mix Asphalt Facilities is applicable.

§ 60.92 – Standard for Particulate Matter states that no owner or operator subject to this subpart shall discharge into the atmosphere any gases which;

1. Contain particulate matter in excess of 90 mg/dscm or 0.04 grains/dscf; and
2. Exhibit 20 % opacity or greater.

District Rule 223, Fugitive Dust section 223.4.B states that a person shall not cause or allow PM10 levels to exceed 50 micrograms per cubic meter (0.02 grains/cubic foot) which is more stringent than § 60.92.1 so the Rule 223 limitation will be added to the permit. District Rule 202, Visible Emissions contains the same opacity limit and is a standard permit condition on all District permits for sources that produce fugitive emissions.

6. NESHAP COMPLIANCE

Not applicable – Subpart LLLLL- National Emission Standards for Hazardous Air Pollutants: Asphalt Processing and Asphalt Roofing Manufacturing applies to major sources.

K. RECOMMENDATIONS

The exhaust modification including additional fan, shroud and ductwork is expected to comply with District, state and federal rules and regulations.

The permit should be modified to eliminate the existing contaminated soil limitations pertinent to off-site soils processing as this practice was discontinued many years ago by Tahoe Asphalt. The only contaminated soil condition that should be on the permit is the one that is pertinent to the recycling of contaminated soil originating on site by occasional petroleum spills.

I recommend issuance of a conditional Authority to Construct.

REVIEWED BY: Lyn Peterson DATE: 10-18-13

ELECTRONIC CODE OF FEDERAL REGULATIONS

e-CFR Data is current as of September 27, 2013

Title 40: Protection of Environment
PART 60—STANDARDS OF PERFORMANCE FOR NEW STATIONARY SOURCES

Subpart I—Standards of Performance for Hot Mix Asphalt Facilities

Contents

§ 60.90 Applicability and designation of affected facility.
§ 60.91 Definitions.
§ 60.92 Standard for particulate matter.
§ 60.93 Test methods and procedures.

§ 60.90 Applicability and designation of affected facility.

(a) The affected facility to which the provisions of this subpart apply is each hot mix asphalt facility. For the purpose of this subpart, a hot mix asphalt facility is comprised only of any combination of the following: dryers; systems for screening, handling, storing, and weighing hot aggregate; systems for loading, transferring, and storing mineral filler, systems for mixing hot mix asphalt; and the loading, transfer, and storage systems associated with emission control systems.

(b) Any facility under paragraph (a) of this section that commences construction or modification after June 11, 1973, is subject to the requirements of this subpart.

[42 FR 37936, July 25, 1977, as amended at 51 FR 12325, Apr. 10, 1986]

§ 60.91 Definitions.

As used in this subpart, all terms not defined herein shall have the meaning given them in the Act and in subpart A of this part.

(a) *Hot mix asphalt facility* means any facility, as described in § 60.90, used to manufacture hot mix asphalt by heating and drying aggregate and mixing with asphalt cements.

[51 FR 12325, Apr. 10, 1986]

§ 60.92 Standard for particulate matter.

(a) On and after the date on which the performance test required to be conducted by § 60.8 is completed, no owner or operator subject to the provisions of this subpart shall discharge or cause the discharge into the atmosphere from any affected facility any gases which:

(1) Contain particulate matter in excess of 90 mg/dscm (0.04 gr/dscf).

(2) Exhibit 20 percent opacity, or greater.

[39 FR 9314, Mar. 8, 1974, as amended at 40 FR 46259, Oct. 6, 1975]

§ 60.93 Test methods and procedures.

Rule 223.4.B is more restrictive at 0.02 grains/CF + 50 micrograms/m^3

$\left(.09\ \frac{grains}{dscm}\right)\left(\frac{0.028\ m^3}{ft^3}\right)\left(\frac{1\ lb}{453.6\ grains}\right)\left(\frac{7000\ grains}{lb}\right) = 0.039 \approx 0.04\ \frac{grains}{dscf}$

(a) In conducting the performance tests required in § 60.8, the owner or operator shall use as reference methods and procedures the test methods in appendix A of this part or other methods and procedures as specified in this section, except as provided in § 60.8(b).

(b) The owner or operator shall determine compliance with the particulate matter standards in § 60.92 as follows:

(1) Method 5 shall be used to determine the particulate matter concentration. The sampling time and sample volume for each run shall be at least 60 minutes and 0.90 dscm (31.8 dscf).

(2) Method 9 and the procedures in § 60.11 shall be used to determine opacity.

[54 FR 6667, Feb. 14, 1989]

Section I: AQMD BACT Determinations

Application No.: 364181

Equipment Category – Asphalt Batch Plant

1. GENERAL INFORMATION

DATE: 11/14/2003

A.	MANUFACTURER:		
B.	TYPE:	C. MODEL:	
D.	STYLE:		
E.	APPLICABLE AQMD RULES:	401, 402, 403, 404, 405	
F.	COST: $ (NA)	SOURCE OF COST DATA:	
G.	OPERATING SCHEDULE:	8 HRS/DAY	5 DAYS/WK 50 WKS/YR

2. EQUIPMENT INFORMATION

APP. NO.: 364181

A.	FUNCTION:	Production of hot-mix asphalt. Recycled asphalt is mixed with aggregate (sand, gravel or crushed rock) and, in some cases, ground rubber and/or mineral filler (mainly lime) and heated and dried in a rotary dryer. Liquid asphalt is added to this mix to produce asphaltic concrete.	
B.	MAXIMUM HEAT INPUT:	175 MMBtu/hr	C. MAXIMUM THROUGHPUT: 600 tph
D.	BURNER INFORMATION:	NO.: 1	TYPE: LNB
E.	PRIMARY FUEL:	Natural Gas	F. OTHER FUEL: None
G.	OPERATING CONDITIONS:	Steady	

3. COMPANY INFORMATION

APP. NO.: 364181

A.	NAME:	Blue Diamond Division of Sully Miller Contracting	B. SIC CODE: 2951
C.	ADDRESS:	5625 Southern Ave.	
	CITY:	South Gate	STATE: CA ZIP: 90280
D.	CONTACT PERSON:	Pete Pouwels	E. PHONE NO.: 714-449-2288

4. PERMIT INFORMATION

APP. NO.: 364181

A.	AGENCY:	SCAQMD	B. APPLICATION TYPE: new construction
C.	AGENCY CONTACT PERSON:	Hiram Fong	D. PHONE NO.: 909-396-2718
E.	PERMIT TO CONSTRUCT/OPERATE INFORMATION:	P/C NO.: 364181	ISSUANCE DATE: 10/6/2000
	☐ CHECK IF NO P/C	P/O NO.: F55717	ISSUANCE DATE: 10/16/2002
F.	START-UP DATE:	September 2001)	

5. EMISSION INFORMATION

APP. NO.: 364181

A. PERMIT

A1. PERMIT LIMIT: The rotary dryer and the rubber and mineral storage silos load-out chutes to be vented to a baghouse. Aggregate charged and in process to be kept sufficiently moist to prevent visible dust emissions. Rotary dryer to be equipped with low-NOx burner and flue gas recirculation. NOx from the dryer not to exceed 33 ppmvd@3%O2. Asphalt storage tanks to be vented through condensers and steel wool filters with condenser-exit temperatures not to exceed 120F. Rubber and mineral filler storage silos to have filtered vents and pneumatic fill tubes. Truck load-out areas to be enclosed tunnels vented to two-stage filter packs.

A2. BACT/LAER DETERMINATION: Same as above

A3. BASIS OF THE BACT/LAER DETERMINATION: The above BACT determination was based on AQMD BACT Guidelines, Part D. Control of NOx to 33 ppmvd@3%O2 exceeds the AQMD BACT Guideline and is now achieved in practice.

B. CONTROL TECHNOLOGY

B1. MANUFACTURER/SUPPLIER: Baghouse (permitted separately, A/N 364182): Roto-Aire 420-S, reverse air, with 400 hp blower, 120,000 cfm. Low-NOx burner: Hauck, model ES-175X. Load-out tunnel filters: first stage-Farr 30/30 pleated filters, second stage-Riga Flow XL pleated filters.

B2. TYPE:

B3. DESCRIPTION:

B4. CONTROL EQUIPMENT PERMIT APPLICATION DATA: P/C NO.: 364182 ISSUANCE DATE: 10/6/2000
P/O NO.: F55718 ISSUANCE DATE: 10/16/2002

B5. WASTE AIR FLOW TO CONTROL EQUIPMENT: FLOW RATE: 120,000 cfm
ACTUAL CONTAMINANT LOADING: BLOWER HP: 400

B6. WARRANTY:

B7. PRIMARY POLLUTANTS: NOx, CO, VOC, PM10

B8. SECONDARY POLLUTANTS: None

B9. SPACE REQUIREMENT:

B10. LIMITATIONS:

B11. UNUSED

B12. OPERATING HISTORY: Plant has been in normal operation since startup. There have been no problems with the low-NOx burner or flue gas recirculation system.

B13. UNUSED

B14. UNUSED

C. CONTROL EQUIPMENT COSTS

C1. CAPITAL COST: ☐ CHECK IF INSTALLATION COST IS INCLUDED IN EQUIPMENT COST
EQUIPMENT: $ INSTALLATION: $ (NA) SOURCE OF COST DATA:

C2. ANNUAL OPERATING COST: $ (NA) SOURCE OF COST DATA:

D. DEMONSTRATION OF COMPLIANCE

D1. STAFF PERMFORMING FIELD EVALUATION:
ENGINEER'S NAME: INSPECTOR'S NAME: Lalo Bakhoum DATE: 5/9/02, 8/27/02, 5/27/03

5. EMISSION INFORMATION

APP. NO.: 364181

D2. COMPLIANCE DEMONSTRATION: Inspections

D3. VARIANCE: NO. OF VARIANCES: None DATES:
CAUSES:

D4. VIOLATION: NO. OF VIOLATIONS: None DATES:
CAUSES:

D5. MAINTENANCE REQUIREMENTS:

D6. UNUSED

D7. SOURCE TEST/PERFORMANCE DATA RESULTS AND ANALYSIS:

DATE OF SOURCE TEST: Feb 20, 21, 27, 2002; Mar 11, 2002 CAPTURE EFFICIENCY:

DESTRUCTION EFFICIENCY: OVERALL EFFICIENCY:

SOURCE TEST/PERFORMANCE DATA:

	Virgin Aggregate Feb 2002				Recycled Asphalt Product (RAP) March 2002			
	Feb 20	Feb 21	Feb 27	Avg.	Test 1	Test 2	Test 3	Avg.
O2, % (dry)	8.59	8.90	7.83	8.44	7.1	7.5	6.8	7.1
NOx, ppmvd@3%O@	23.5	26.7	27.4	25.9	26	25	24	25
CO, ppmvd@3%O2	35.9	38.1	44.3	39.4	91	41	108	80
PM, grn/dscf								
Probe + Filter	.000125	.000581	.000380	.000362	.0035	.0014	.0031	.0027
Total	.00128	.00126	.00348	.00201	.012	.031	.010	.018
VOC, ppmvd as CH4	6.2	--	--	6.2	13.6	11.6	--	12.6

OPERATING CONDITIONS: February: 472 to 486 tph; March: 500 tph, 15% RAP (avg.)

TEST METHODS: AQMD Method 100.1 for NOx, CO and O2. AQMD Method 25.3 for VOC. For PM: AQMD Method 5.2 in Feb and EPA Method 5 in March. Three one-hour tests in each case. Test was approved by permitting team.

6. COMMENTS

APP. NO.: 364181

TAHOE ASPHALT

Asphalt Batch Plant Emissions (Batch Mix Hot Mix, Natural Gas or #2 Fuel Oil-Fired with Fabric Baghouse)

Use this spreadsheet when the emissions are from a Batch Mix Hot Mix Natural Gas or #2 Fuel Oil-Fired Asphalt Plant. The emissions here do not include emissions from Asphalt Storage, Asphalt Dust, and Aggregate Piles units. These units are covered by other spreadsheets. Entries required in yellow areas, output in grey areas.

Inputs	tons/hr	tons/yr		
Process Rate Asphalt produced	1.68E+02	90000		
Substance	**CAS#**	**lbs/ton***	**LB/HR**	**LB/YR**
2-Methyl naphthalene	**91576**	7.10E-05	1.19E-02	6.39E+00
Acenaphthene	**83329**	9.00E-07	1.51E-04	8.10E-02
Acenaphthylene	**208968**	5.80E-07	9.74E-05	5.22E-02
Acetaldehyde	**75070**	3.20E-04	5.38E-02	2.88E+01
Anthracene	**120127**	2.10E-07	3.53E-05	1.89E-02
Arsenic	**7440382**	4.60E-07	7.73E-05	4.14E-02
Barium	**7440393**	1.50E-06	2.52E-04	1.35E-01
Benzene	**71432**	2.80E-04	4.70E-02	2.52E+01
Benzo(a)anthracene	**56553**	4.60E-09	7.73E-07	4.14E-04
Benzo(a)pyrene	**50328**	3.10E-10	5.21E-08	2.79E-05
Benzo(b)fluoranthene	**205992**	9.40E-09	1.58E-06	8.46E-04
Benzo(g,h,i)perylene	**191242**	5.00E-10	8.40E-08	4.50E-05
Benzo(k)fluoranthene	**207089**	1.30E-08	2.18E-06	1.17E-03
Beryllium	**7440417**	1.50E-07	2.52E-05	1.35E-02
Cadmium	**7440439**	6.10E-07	1.02E-04	5.49E-02
Chromium	**7440473**	5.70E-07	9.58E-05	5.13E-02
Chrysene	**218019**	3.80E-09	6.38E-07	3.42E-04
Copper	**7440508**	2.80E-06	4.70E-04	2.52E-01
Crotonaldehyde	**4170303**	2.90E-05	4.87E-03	2.61E+00
Dibenz(a,h)anthracene	**53703**	9.50E-11	1.60E-08	8.55E-06
Ethylbenzene	**100414**	2.20E-03	3.70E-01	1.98E+02
Fluorene	**86737**	1.60E-06	2.69E-04	1.44E-01
Fluoranthene	**206440**	1.60E-07	2.69E-05	1.44E-02
Formaldehyde	**50000**	7.40E-04	1.24E-01	6.66E+01
Hexvalent Chromium	**18540299**	4.80E-08	8.06E-06	4.32E-03
Indeno(1,2,3-cd)pyrene	**193395**	3.00E-10	5.04E-08	2.70E-05
Isobutyraldehyde	**78842**	3.00E-05	5.04E-03	2.70E+00
Lead	**7439921**	8.90E-07	1.50E-04	8.01E-02
Manganese	**7439965**	6.90E-06	1.16E-03	6.21E-01
Mercury	**7439976**	4.10E-07	6.89E-05	3.69E-02
Naphthalene	**91203**	3.60E-05	6.05E-03	3.24E+00
Nickel	**7440020**	3.00E-06	5.04E-04	2.70E-01
Phenanthrene	**85018**	2.60E-06	4.37E-04	2.34E-01
Pyrene	**129000**	6.20E-08	1.04E-05	5.58E-03
Quinone	**106514**	2.70E-04	4.54E-02	2.43E+01
Selenium	**7782492**	4.90E-07	8.23E-05	4.41E-02
Toluene	**108883**	1.00E-03	1.68E-01	9.00E+01
Xylene (mixed xylenes)	**1330207**	2.70E-03	4.54E-01	2.43E+02
Zinc	**7440666**	6.80E-06	1.14E-03	6.12E-01

References:

*Emission factors are from AP 42 Chapter 11 Mineral Products Industry, Section 1 Hot Mix Asphalt Plants, tables 11.1-9 and 11.1-11

8.5% Increase over 1986 Actual Emission Inventory which was Highest Throughput Year in File History

Prioritization Score Totals:		
0.20	0.59	0.05

HMA Emissions Calculated for 50,000 TPY / Emissions from Aggregate Processing and Emergency Generator Maintenance Hours Included

09/12/2013

See Appendix E&F in the Pri Guidelines

			EMISSIONS:				TOXICITY VALUES:					PRIORITIZATION SCORES:		
Substances	CAS Number	Deg. of Acc. (lbs/yr)	CANCER actual (lbs/yr) Ec	ACUTE maximum (lbs/hr) Ea	CHRONIC average (lbs/hr) Ech	multi-path way	UNIT RISK $(ug/m^3)^{-1}$ Pc	ACUTE REL (ug/m^3) Pa	CHRONIC REL (ug/m^3) Pch	Stack Height Factor D	Dist. factor RP	CANCER score Sc	ACUTE score Sa	CHRONIC score Sch
Acetaldehyde	75070	20	**1.60E+01**	**3.84E-02**	**1.83E-03**		2.70E-06	470	140	60	0.040	0.0029	0.0049	0.0001
Arsenic	7440382	0.01	**4.73E-02**	**7.72E-05**	**5.40E-06**	x	3.30E-03	2.00E-01	0.015	60	0.040	0.0105	0.0232	0.0022
Benzene	71432	2	**1.40E+01**	**3.36E-02**	**1.60E-03**		2.90E-05	1300	60	60	0.040	0.0273	0.0016	0.00
Beryllium	7440417	0.001	**8.61E-03**		**9.83E-07**	x	2.40E-03		0.007	60	0.040	0.0014		0.00
Cadmium	7440439	0.01	**3.16E-02**		**3.61E-06**	x	4.20E-03		0.02	60	0.040	0.0089		0.0011
Carbon Monoxide	630080			**6.78E+01**				23000		60	0.040		0.1767	
Chromium VI	18540299	0.0001	**3.95E-03**		**4.51E-07**	x	1.50E-01		0.2	60	0.040	0.0398		0.0000
Copper	7440508	0.1		**4.47E-04**				100		60	0.040		0.0003	
Diesel pm<10	9901	10	**3.50E+00**		**4.00E-04**		3.00E-04		5	60	0.040	0.0706		0.0005
Ethyl Benzene	100414	200	**1.10E+02**		**1.26E-02**		2.50E-06		2000	60	0.040	0.0185		0.0000
Formaldehyde	50000	5	**3.70E+01**	**1.24E-01**	**4.22E-03**		6.00E-06	5.50E+01	9.00E+00	60	0.040	0.0149	0.1353	0.0028
Lead - cancer	7439921	0.5	**9.98E-02**			x	1.20E-05			60	0.040	0.0001		
Manganese	7439-96-5	0.1	**9.31E-01**		**1.06E-04**				9.00E-02	60	0.040			0.0071
Mercury	7439976	1	**2.05E-02**	**6.89E-05**	**2.34E-06**	x		6.00E-01	3.00E-02	60	0.040		0.0069	0.0005
Naphthalene	91203	50	**1.80E+00**		**2.05E-04**		3.45E-05		9	60	0.040	0.0042		0.0001
Nickel	7440020	0.1	**1.81E-01**	**5.04E-04**	**2.07E-05**		2.60E-04	0.2	1.40E-02	60	0.040	0.0032	0.1512	0.0089
PAHs	1151	50				x				60	0.040			
Benzo(a)pyrene	50328	0.05	**1.55E-05**				1.10E-03			60	0.040	0.0000		
Benzo(a)anthracene	56553	0.5	**2.30E-04**				1.10E-04			60	0.040	0.0000		
Benzo(a,h)anthracene	53703		**2.30E-04**				1.10E-04			60	0.040	0.0000		
Benzo(b)fluoranthene	205992	0.5	**4.70E-04**				1.10E-04			60	0.040	0.0000		
Benzo(k)fluoranthene	207089	0.5	**6.50E-04**				1.10E-04			60	0.040	0.0000		
Dibenz(a,h)anthracene	53703	0.1	**4.75E-06**				1.20E-03			60	0.040	0.0000		
Indeno(1,2,3-cd)pyrene	193395	0.5	**1.50E-05**				1.10E-04			60	0.040	0.0000		
Chrysene	218019	5	**1.90E-04**				1.10E-05			60	0.040	0.0000		
Selenium	7782492	0.5	**5.01E-02**		**5.72E-06**				20	60	0.040			0.0000
Silica, Crystalline	1175	0.1	**1.11E+02**		**1.26E-02**				3.0	60	0.040			0.0252
Sulfur Dioxide	7446095		**2.33E+02**	**9.37E-01**	**2.66E-02**			660	660	60	0.040		0.0852	0.0002
Toluene	108883	200	**5.00E+01**	**1.68E-01**	**5.71E-03**			37000	300	60	0.040		0.0003	0.0001
Xylenes	1210	200	**1.35E+02**	**4.54E-01**	**1.54E-02**			22000	700	60	0.040		0.0012	0.0001
											SCORE =	**0.20**	**0.59**	**0.05**

Stack Height: < 20 meters
Receptor Proximity: ~= 250+ meters

D = 60
RP = 0.04
(residential)

Sc = Ec * Pc * RP * D * 28
Sa = Ea / Pa * RP * D * 25
Sch = Ech / Pch * RP * D * 2.5

CONCLUSION: Numbers remain below 10, therefore a refined Health Risk Assessment will not be required.

1193 Julie


Viking Rd
Shop St
Industrial Ave
Lake Tahoe Blvd
Margaret Ave
Bonanza Ave
Dedi Ave
Julie Ln
D St
G St
89
280 m (919 ft) to Mr. Marcus' Property Line
250 m (820 ft) to nearest resident

8.5% Increase over 1986 Actual Emission Inventory which was Highest Throughput Year in File History
Emissions Calculated for 50,000 TPY
07/11/2013

Needs Diesel PM + CO + SO2

Prioritization Score Totals:		
~~0.13~~	0.27	0.05

See Appendix E&F in the Pri Guidelines

Substances	CAS Number	Deg. of Acc. (lbs/yr)	EMISSIONS: CANCER actual (lbs/yr) Ec	ACUTE maximum (lbs/hr) Ea	CHRONIC average (lbs/hr) Ech	multi-path way	TOXICITY VALUES: UNIT RISK $(ug/m^3)^{-1}$ Pc	ACUTE REL (ug/m^3) Pa	CHRONIC REL (ug/m^3) Pch	Stack Height Factor D	Dist. factor RP	PRIORITIZATION SCORES: CANCER score Sc	ACUTE score Sa	CHRONIC score Sch
Acetaldehyde	75070	20	1.60E+01	3.84E-02	1.83E-03		2.70E-06	470	140	60	0.040	0.0029	0.0049	0.0001
Acetamide	60355	2					2.00E-05			60	0.040			
Acrylamide	79061	0.01					1.30E-03		0.7	60	0.040			
Acrylonitrile	107131	0.1					2.90E-04		5	60	0.040			
Acrolein	107028	0.05						2.5	0.35	60	0.040			
Aluminum	7429905	100								60	0.040			
Ammonia	7664417	200						3200	200	60	0.040			
Antimony	7440360	1							0.2	60	0.040			
Arsenic	7440382	0.01	4.73E-02	7.72E-05	5.40E-06	x	3.30E-03	2.00E-01	0.015	60	0.040	0.0105	0.0232	0.0022
Arsine	7784421	0.01						2.00E-01	0.015	60	0.040			
Asbestos - weight	1332214	na					6.30E-02			60	0.040			
Asbestos - fibers	1332214	na					1.90E-04			60	0.040			
							(PCM fibers/m3)				0.040			
Benzene	71432	2	1.40E+01	3.36E-02	1.60E-03		2.90E-05	1300	60	60	0.040	0.0273	0.0016	0.0002
Beryllium	7440417	0.001	8.61E-03		9.83E-07	x	2.40E-03		0.007	60	0.040	0.0014		0.0008
Bromine	7726956	0.05				x			1.7	60	0.040			
1,3 Butadiene	106990	0.1					1.70E-04		20	60	0.040			
Cadmium	7440439	0.01	3.16E-02		3.61E-06	x	4.20E-03		0.02	60	0.040	0.0089		0.0011
Carbon Black	1050	100								60	0.040			
Carbon Disulfide	75150	200						6200	800	60	0.040			
Carbon Monoxide	630080							23000		60	0.040			
Carbon Tetrachloride	56235	1					4.20E-05	1900	40	60	0.040			
CFC 22 (Chlorodifluoromethane)	75456	200							700	60	0.040			
CFC 113 (Trichlorotrifluoroethane)	76131								700	60	0.040			
Chlorinated Fluorocarbons	1105	200							700	60	0.040			
Chlorinated paraffins	108171262						2.50E-05			60	0.040			
Chlorine	7782505	0.5						210	0.2	60	0.040			
Chlorine Dioxide	10049044	1							0.6	60	0.040			
Chlorobenzene	108907	200							1000	60	0.040			
Chloroform	67663	10					5.30E-06	150	300	60	0.040			
Chloropicrin	76062	2						29	0.4	60	0.040			
Chromium VI	18540299	0.0001	3.95E-03		4.51E-07	x	1.50E-01		0.2	60	0.040	0.0398		0.0000
Zinc Chromate	13530659										0.040			
CrVI in Zinc Chromate	18540299										0.040			
mole % CrVI in ZnCrO4	28.7%	MT*(52/181)=MCRVI									0.040			
Zinc in Zinc Chromate	7440666	2							35	60	0.040			
mole % Zn in ZnCrO4	36%	MT*(65/181)=MZn									0.040			
Lead Chromate	7758976	0.001					1.50E-01		0.2	60	0.040			
CrVI in Lead Chromate	18540299										0.040			
mole % CrVI in PbCrO4	16%	MT*(52/323)=MCRVI									0.040			
Lead in Lead Chromate	7439921	0.5									0.040			
mole % Pb in PbCrO4	64%	MT*(207/323)=MPb									0.040			
Barium Chromate	1.03E+07	0.001					1.50E-01		0.2	60	0.040			
	total barium chromate emissions =										0.040			
CrVI in Barium Chromate	18540299										0.040			
mole % CrVI in BaCrO4	28.7%	MT*(52/253)=MCRVI									0.040			
Ba in Barium Chromate	7440393									60	0.040			
mole % Ba in BaCrO4	36%	MT*(137/253)=MBa									0.040			
Chromium (total)	7440473	0.001				x				60	0.040			
Copper	7440508	0.1		4.47E-04				100		60	0.040		0.0003	
o-Cresol	95487	5							600	60	0.040			
p-Cresol	106455	50							600	60	0.040			
Creosotes (see benzo[a]pyrene)	1070	0.05								60	0.040			
1,4 Dichlorobenzene (p-Dichlorobenzene)	106467	5					1.10E-05		800	60	0.040			
1,2 Dichlorobenzene (o-Dichlorobenzene)	95501	200								60	0.040			

8.5% Increase over 1986 Actual Emission Inventory which was Highest Throughput Year in File History
Emissions Calculated for 50,000 TPY
07/11/2013

Prioritization Score Totals:		
0.13	0.27	0.05

See Appendix E&F in the Pri Guidelines

Substances	CAS Number	Deg. of Acc. (lbs/yr)	EMISSIONS: CANCER actual (lbs/yr) Ec	ACUTE maximum (lbs/hr) Ea	CHRONIC average (lbs/hr) Ech	multi-path way	TOXICITY VALUES: UNIT RISK $(ug/m^3)^{-1}$ Pc	ACUTE REL (ug/m^3) Pa	CHRONIC REL (ug/m^3) Pch	Stack Height Factor D	Dist. factor RP	PRIORITIZATION SCORES: CANCER score Sc	ACUTE score Sa	CHRONIC score Sch
3,3 Dichlorobenzidine	91941	0.1					3.40E-04			60	0.040			
1,1 Dichloroethane	75343	20					1.60E-06			60	0.040			
1,3-Dichloropropene (Telone)	542756	10								60	0.040			
Di (2-Ethyl Hexyl) Phthalate (DEHP)	117817	20					2.40E-06		70	60	0.040			
Diesel pm<10	9901	10					3.00E-04		5	60	0.040			
1,4 Dioxane	123911	5					7.70E-06	3000	3000	60	0.040			
Dioxins (not updated by species)	1086					x	3.80E+01		0.00004	60	0.040			
2,3,7,8 Tetrachlorodibenzo-p-dioxin	1746016	0.00001				x	3.80E+01		0.00004	60	0.040			
1,2,3,7,8 Pentachlorodibenzo-p-dioxin	40321764	0.00001				x	3.80E+01		0.00004	60	0.040			
1,2,3,4,7,8 Hexachlorodibenzo-p-dioxin	39227286	0.00001				x	3.80E+00		0.0004	60	0.040			
1,2,3,6,7,8 Hexachlorodibenzo-p-dioxin	57653857	0.00001				x	3.80E+00		0.0004	60	0.040			
1,2,3,7,8,9 Hexachlorodibenzo-p-dioxin	19408743	0.00001				x	3.80E+00		0.0004	60	0.040			
1,2,3,4,6,7,8 Hepachlorodibenzo-p-dioxin	35822469	0.00001				x	3.80E-01		0.004	60	0.040			
1,2,3,4,6,7,8,9 Octachlorodibenzo-p-dioxin	3268879	0.00001				x	3.80E-03		0.4	60	0.040			
Epichlorohydrin	106898	2					2.30E-05	1300	3	60	0.040			
Ethyl Benzene	100414	200	1.10E+02	2.64E-01	1.26E-02		2.50E-06		2000	60	0.040	0.0185		0.0000
Ethyl Chloride	75003	200							30000	60	0.040			
Ethylene Dibromide	106934	0.5					7.10E-05		0.8	60	0.040			
Ethylene Dichloride	107062	2					2.10E-05		400	60	0.040			
Ethylene Oxide	75218	0.5					8.80E-05		30	60	0.040			
Glycol Ethers	1115	100								60	0.040			
Ethylene Glycol	107211	200							400	60	0.040			
Ethylene Glycols:											0.040			
diethylene glycol monobutyl ether (DGMEA)	112345	100								60	0.040			
diethyl ether	629141	100								60	0.040			
dimethyl ether	110714	100								60	0.040			
monobutyl ether	111762	200						14000		60	0.040			
(Ethylene Glycol Monobutyl Ether, Butyl Cellosolve, 2-Butoxyethanol)											0.040			
monoethyl ether (ethyl ether)	110805	50						370	70	60	0.040			
monoethyl ether acetate (EGMEA)	111159	100						140	300	60	0.040			
monomethyl ether	109864	10						93	60	60	0.040			
monomethyl ether acetate	110496	200							90	60	0.040			
monopropyl ether	2807309	100								60	0.040			
Propylene Glycols:											0.040			
monomethyl ether	107982	200							7000	60	0.040			
monomethyl ether acetate (PGMEA)	108656	100								60	0.040			
Triethylene Glycol Dimethyl Ether	112492	100								60	0.040			
Formaldehyde	50000	5	3.70E+01	8.88E-02	4.22E-03		6.00E-06	5.50E+01	9.00E+00	60	0.040	0.0149	0.0969	0.0028
Fluorocarbons	1104									60	0.040			
Freon 14 (Tetrafluoride)	56235									60	0.040			
Freon 12 (Dichlorodifluoromethane)	76718	200							700	60	0.040			
Freon 116 (Hexafluoroethane)	76164									60	0.040			
Freon 23 (Trifluoromethane)	75467									60	0.040			
Furans (dibenzofurans)	51207319						3.80E+01		0.00004	60	0.040			
2,3,7,8 Tetrachlorodibenzo-p-furan	51207319	0.00001					3.80E+00		0.0004	60	0.040			
1,2,3,7,8 Pentachlorodibenzo-p-furan	57117416	0.00001					1.90E+00		0.0008	60	0.040			
2,3,4,7,8 Hexachlorodibenzo-p-furan	57117314	0.00001					1.90E+01		0.00008	60	0.040			
1,2,3,4,7,8 Hexachlorodibenzo-p-furan	70648269	0.00001					3.80E+00		0.00004	60	0.040			
1,2,3,6,7,8 Hexachlorodibenzo-p-furan	57117449	0.00001					3.80E+00		0.00004	60	0.040			
1,2,3,7,8,9 Hexachlorodibenzo-p-furan	72918219	0.00001					3.80E+00		0.0004	60	0.040			
2,3,4,6,7,8 Hexachlorodibenzo-p-furan	60851345	0.00001					3.80E+00		0.0004	60	0.040			
1,2,3,4,6,7,8 Hepachlorodibenzo-p-furan	67562394	0.00001					3.80E-01		0.004	60	0.040			
1,2,3,4,7,8,9 Heptachlorodibenzo-p-furan	55673897	0.00001					3.80E-01		0.004	60	0.040			
1,2,3,4,7,8,9 Octachlorodibenzo-p-furan	39001020	0.00001					3.80E-03		0.4	60	0.040			
Halon 1301	1105									60	0.040			

8.5% Increase over 1986 Actual Emission Inventory which was Highest Throughput Year in File History
Emissions Calculated for 50,000 TPY
07/11/2013

Prioritization Score Totals:		
0.13	0.27	0.05

See Appendix E&F in the Pri Guidelines

			EMISSIONS:				TOXICITY VALUES:					PRIORITIZATION SCORES:		
Substances	CAS Number	Deg. of Acc. (lbs/yr)	CANCER actual (lbs/yr) Ec	ACUTE maximum (lbs/hr) Ea	CHRONIC average (lbs/hr) Ech	multi-path way	UNIT RISK $(ug/m^3)^{-1}$ Pc	ACUTE REL (ug/m^3) Pa	CHRONIC REL (ug/m^3) Pch	Stack Height Factor D	Dist. factor RP	CANCER score Sc	ACUTE score Sa	CHRONIC score Sch
HBr									24	60	0.040			
HCl	7647010	20						2100	9	60	0.040			
HCN	74908	10						340	9	60	0.040			
HF	7664393	50						240	1.4	60	0.040			
HNO3	7697372	50						86		60	0.040			
H2S	7783064	5						42	10	60	0.040			
H2SO4	7664939	2						120	1	60	0.040			
Hexachlorobenzene	118741	0.1					5.10E-04		2.8	60	0.040			
Hexachlorocyclohexane	1120	0.05					1.10E-03		1	60	0.040			
Hexane	110543	200							7000	60	0.040			
Hydroquinone	123319	100								60	0.040			
Hydrazine	302012	0.01					4.90E-03		0.2	60	0.040			
Isocyanates:											0.040			
Toluene-2,4-diisocyanate	584849	0.1					1.10E-05		0.07	60	0.040			
Toluene-2,6-diisocyanate	91087	0.1					1.10E-05		0.07	60	0.040			
Methyl isocyanate	624839	1							1.0	60	0.040			
Methyl diphenyl isocyanate	101688								0.7	60	0.040			
Isopropanol	67630	200						3200	7000	60	0.040			
Lead - cancer	7439921	0.5	1.00E-01			x	1.20E-05			60	0.040	0.0001		
Lead - cardiovascular	7439921	0.5				x			1.5	60	0.040			
Lead Alkyl Sulfonate	7416142					x			1.5	60	0.040			
Lead Sulfate	744642	5				x	1.20E-05		1.5	60	0.040			
Manganese	7439-96-5	0.1	9.31E-01		1.06E-04				9.00E-02	60	0.040			0.0071
Mercury	7439976	1	2.05E-02	4.92E-05	2.34E-06	x		6.00E-01	3.00E-02	60	0.040		0.0049	0.0005
Methanol	67561	200						28000	4000	60	0.040			
Methyl Chloroform (1,1,1-TCA)	71556	200						68000	1000	60	0.040			
Methyl Bromide	74839	20						3900	5	60	0.040			
Methyl Ethyl Ketone (MEK)	78933	200						13000	10000	60	0.040			
Methyl Isobutyl Ketone (MIBK)	108101	20								60	0.040			
Methyl Tert Butyl Ether (MTBE)	1634044	200							8000	60	0.040			
Methylene Chloride	75092	50					1.00E-06	14000	400	60	0.040			
Michler's Ketone	90948	0.1					2.50E-04			60	0.040			
Naphthalene	91203	50	1.80E+00	4.32E-03	2.05E-04		3.45E-05		9	60	0.040	0.0042		0.0001
Nickel	7440020	0.1	1.81E-01	4.44E-04	2.07E-05		2.60E-04	0.2	1.40E-02	60	0.040	0.0032	0.1332	0.0089
Nickel Oxide	1313991	0.1					2.60E-04	6	0.1	60	0.040			
Nitrogen Dioxide (NOx)	10102440							470	470	60	0.040			
Ozone	10028156							180	180	60	0.040			
PCBs	1336363	0.01					5.70E-04		1.2	60	0.040			
PAHs	1151	50				x				60	0.040			
Benzo(a)pyrene	50328	0.05	1.55E-05	3.72E-08	1.77E-09		1.10E-03			60	0.040	0.0000		
Benz(a)anthracene	56553	0.5					1.10E-04			60	0.040			
Benzo(a,h)anthracene	53703		2.30E-04	5.52E-07	2.63E-08		1.10E-04			60	0.040	0.0000		
Benzo(b)fluoranthene	205992	0.5	4.70E-04	1.13E-06	5.37E-08		1.10E-04			60	0.040	0.0000		
Benzo(j)fluoranthrene	205823	0.5					1.10E-04			60	0.040			
Benzo(k)fluoranthene	207089	0.5	6.50E-04	1.56E-06	7.42E-08		1.10E-04			60	0.040	0.0000		
Dibenz(a,j)acridine	224420	0.001					1.10E-04			60	0.040			
Dibenz(a,h)acridine	226368	0.001					1.10E-04			60	0.040			
Dibenz(a,h)anthracene	53703	0.1	4.75E-06	1.14E-08	5.42E-10		1.20E-03			60	0.040	0.0000		
Dibenzo(a,e)pyrene	192654	0.05					1.10E-03			60	0.040			
Dibenzo(a,h)pyrene	189640	0.001					1.10E-02			60	0.040			
Dibenzo(a,i)pyrene	189559	0.001					1.10E-02			60	0.040			
Dibenzo(a,l)pyrene	191300	0.001					1.10E-02			60	0.040			
7H-dibenzo(c,g)carbazole	194592	0.05					1.10E-03			60	0.040			
7,12-dimethylbenz(a)anthracene	57976	0.0001					7.10E-02			60	0.040			
Indeno(1,2,3-cd)pyrene	193395	0.5	1.50E-05		1.71E-09		1.10E-04			60	0.040	0.0000		

8.5% Increase over 1986 Actual Emission Inventory which was Highest Throughput Year in File History
Emissions Calculated for 50,000 TPY
07/11/2013

Prioritization Score Totals:		
0.13	0.27	0.05

Substances	CAS Number	Deg. of Acc. (lbs/yr)	EMISSIONS: CANCER actual (lbs/yr) Ec	ACUTE maximum (lbs/hr) Ea	CHRONIC average (lbs/hr) Ech	multi-path way	TOXICITY VALUES: UNIT RISK $(ug/m^3)^{-1}$ Pc	ACUTE REL (ug/m^3) Pa	CHRONIC REL (ug/m^3) Pch	See Appendix E&F in the Pri Guidelines: Stack Height Factor D	Dist. factor RP	PRIORITIZATION SCORES: CANCER score Sc	ACUTE score Sa	CHRONIC score Sch
5-methylchrysene	3697243	0.05					1.10E-03			60	0.040			
1-nitropyrene	5522430	0.5					1.10E-04			60	0.040			
4-nitropyrene	57835924						1.10E-04			60	0.040			
1,6-dinitropyrene	42397648						1.10E-02			60	0.040			
1,8-dinitropyrene	42397659						1.10E-03			60	0.040			
6-nitrochrysene	7496028	0.001					1.10E-02			60	0.040			
2-nitrofluorene	607578	5					1.10E-05			60	0.040			
5-nitroacenaphthene	602879						3.70E-05			60	0.040			
3-methylcholanthrene	56495	0.001					6.30E-03			60	0.040			
Chrysene	218019	5	1.90E-04		2.17E-08		1.10E-05			60	0.040	0.0000		
Pentachlorophenol	87865						5.10E-06		0.2	60	0.040			
Perchloroethylene	127184	5					5.90E-06	20000	35	60	0.040			
Phenol	108952	200						5800	200	60	0.040			
Phosgene	75445	2						4		60	0.040			
Phosphine	7803512	0.01				x			0.8	60	0.040			
Phosporous	7723140	0.1							0.07	60	0.040			
Phosporous Pentoxide	1314563	0.1								60	0.040			
Phosphoric Acid	7664382	50							7	60	0.040			
Propylene Oxide	75569	10					3.70E-06	3100	30	60	0.040			
Propylene	115071	200							3000	60	0.040			
Selenium	7782492	0.5	5.01E-02		5.72E-06				20	60	0.040			0.0000
Silica, Crystalline	1175	0.1	1.11E+02		1.26E-02				3.0	60	0.040			0.0252
Sodium Hydroxide	1310732	2						8	4.8	60	0.040			
Styrene	100425	100						21000	900	60	0.040			
Sulfates	9960							120	25	60	0.040			
Sulfur Dioxide	7446095							660	660	60	0.040			
Telone (See 1,3-Dichloropropene)											0.040			
Toluene	108883	200	5.00E+01	1.20E-01	5.71E-03			37000	300	60	0.040		0.0002	0.0001
1,1,2,2 Tetrachloroethane	79345						5.80E-05			60	0.040			
1,1,1 Trichloroethane (see methyl chloroform)	71556	200								60	0.040			
1,1,2 Trichloroethane	79005	50					1.60E-05			60	0.040			
Trichloroethylene	79016	20					2.00E-06		600	60	0.040			
Urethane	51796	0.1					2.90E-04			60	0.040			
Vanadium	7440622	0.1						30		60	0.040			
Vinyl Acetate	108054	200							200	60	0.040			
Vinyl Chloride	75014	0.5					7.80E-05	180000	26	60	0.040			
Xylenes	1210	200	1.35E+02	3.24E-01	1.54E-02			22000	700	60	0.040		0.0009	0.0001
											SCORE =	0.13	0.27	0.05

Stack Height: < 20 meters
Receptor Proximity: ~= 250+ meters

D = 60
RP = 0.04
(residential)

Sc = Ec * Pc * RP * D * 28
Sa = Ea / Pa * RP * D * 25
Sch = Ech / Pch * RP * D * 2.5

Report to the Natural Resources Board: Silica Study
(From Wisconsin Dept of Natural Resources)

Estimated crystalline silica concentrations

Since there is much more monitoring data for particulate matter that is not specifically analyzed for crystalline silica, most researchers have historically estimated crystalline silica concentrations based on an assumed percentage of crystalline silica in total particulate matter in PM10, PM2.5 or other size fractions.

This section summarizes the results of studies that extrapolated silica concentrations from particulate matter analysis along with their estimates of the percentage of crystalline silica in the particulate matter sampled. It is not known how much of the crystalline silica in these estimates is actually in the PM4 fraction (the respirable-sized particles).

Using data extrapolated from PM10 monitors, the US EPA calculated a national annual average crystalline silica estimate (across the US) of 3 ug/m3 with a maximum estimate across the US of about 8 ug/m3 (US EPA 1996). US EPA stated that a reasonable assumption was that about 10% of the total PM10 was crystalline silica. EPA acknowledged that some industrial processes, such as quarrying, might produce crystalline silica concentrations in the range of 6 to 12%. EPA also estimated that an upper-bound estimate of the percentage of PM10 that was crystalline silica near agricultural sites might be as high as 17% (US EPA 1996).

Using PM10 and PM2.5 monitoring data from 24 urban monitoring sites, Environment Canada (2011) estimated that about 5.22% of total PM10 and 2.52% of total PM2.5 was crystalline silica.

Discussions with Texas and California air agency staff suggest that for some sources, up to 25% of PM10 could be crystalline silica (e.g., California staff discussion of Shiraki and Holmen 2002).

Early 1990s sampling data from California suggested that monitoring near silica sources may also be important because exposures near sources could exceed the common assumption that crystalline silica comprised 10% of the total PM10 levels. Rather than focusing only on general exposures in cities, California agencies evaluated air quality near aggregate production facilities and diatomaceous earth mining operations. There may be exposures near facilities that could exceed the California health benchmark of 3 micrograms per cubic meter (ug/m3). For example, the US EPA (1996) reported the following:

> "Schipper et al. (1993) compared the quartz concentrations from three Central Valley and two coastal sand and gravel operations in California. In the Central Valley, the silica percentage of PM10 air emissions in the quarry pits ranged from 6.0% in Sacramento to 9.1% in Tracy, whereas the silica levels around the crusher ranged from 11.2% in Visalia to 25.5% in Tracy. In the coastal quarries in Monterey and Felton, the portions of quartz were from 14.1 to 16.6% in the PM10 samples (Schipper et al., 1993)."

The research and public information request conducted as part of this study did not yield information on ambient air crystalline silica concentrations in Wisconsin. Wisconsin has some data for elemental silicon from PM2.5 sampling associated with the National Air Toxics Trends Sites (NATTS). Monitoring is conducted at three sites, none of which is near a known silica source. The data from these sites reflect general ambient air concentrations at: 1) a rural background site (Mayville); 2) an urban site (Milwaukee); and 3) a suburban site (Waukesha). The elemental silicon concentration was converted to an equivalent concentration of silicon dioxide (SiO_2) with the assumption that 100% of the SiO_2 was quartz. This is a conservative estimate of crystalline silica from the monitoring data. The average estimated crystalline silica concentrations were: Milwaukee 0.14 ug/m3; Waukesha 0.32 ug/m3; and Mayville 0.10 ug/m3. Additional information regarding the monitoring data is included in Appendix A.

A reasonable + conservative assumption of 10% was used in the Tahoe Asphalt toxics assessment.


3 Julie Ln, South Lake Tahoe, CA 96150, USA
Julie-Ln
Margaret-Ave
Dedi-Ave
D-St
C-St
Melba-Dr
E-St
Shop-St
Industrial-Ave
F-St
89
Tata-Ln
G-St
Bonanza-Ave
Emerald Bay Rd
H-St
© 2013 Google
Imagery Date: 6/14/2011 38°54'12.42" N 119°59'59.50" W elev 6334 ft

Chris Halm
<chalm@arb.ca.gov>
06/30/2005 10:25 AM

To steven.mckinney@co.el-dorado.ca.us
cc
bcc
Subject Re: Hot Spots Program as it relates to Serpentine/Asbestos Quarries

Steve,
(1) I've conferred with several colleagues and we all agree that a quarry is not subject to "Hot Spots" unless it emits >10 tpy of a criteria pollutant. There aren't any categories in Appendix E that could bring it in.

However, there is a provision in regulation (Section II (E)(3)(a) AB 2588 Emission Inventory Criteria and Guidelines) that allows a district to bring a facility into "Hot Spots" if the district believes the facility poses a public health concern. If you did a screening assessment with c. silica and asbestos and the prioritization score was above 10, you should bring the facility into "Hot Spots". If however both asbestos and c. silica are below the prioritization threshold of 10, they should remain exempt from AB 2588.

(2) There are no other quarries in "Hot Spots" solely because of asbestos.

Please call anytime, and feel free to pass this information on to any concerned
individuals.
-Chris

steven.mckinney@co.el-dorado.ca.us wrote:

> Hi Chris,
>
> Thank you for your support with Hot Spots Program interpretation this
> morning. I understand some of my questions were unusual so I will
> summarize below.
>
> 1) Should a serpentine quarry, that has the presence of asbestos, be in the
> Hot Spots program? Assume the quarry does not have any emission sources
> other than fugitive dust and stationary permitted devices
> (crushers/screens) and all dust emissions are less than one or two tons per
> year. We have two quarries in El Dorado county that meet this criteria.
>
> 2) Are there any quarries/mines in California in the Hot Spots program
> solely because they mine asbestos containing rock? Obviously a quarry
> could be in the program due to large diesel engines (and list asbestos on
> their inventory), but...if they did not have the diesels would they be
> required to be in the program?
>
> Thanks again for your support,
> Steve McKinney
> Air Quality Engineer, El Dorado AQMD
> (530) 621-7619

--
Chris Halm
(916) 323-4865
chalm@arb.ca.gov
California Air Resources Board

2010 Actual Emission Inventory
Batch Mix Hot Mix Asphalt Plant, Criteria Pollutants
Tahoe Asphalt, South Lake Tahoe

Permit No.	HMA Production (tons/yr)	Emission Factors (lb/ton of HMA)					Actual Emissions (tons/yr)				
		CO	NOx	SOx	VOC	TSP	CO	NOx	SOx	VOC	TSP
08-167	22,650	0.4	0.025	0.0046	0.0082	0.042	**4.53**	**0.28**	**0.05**	**0.09**	**0.48**

Notes:
1. Emission factors for Batch Mix Hot Asphalt Plants from AP-42, Section 11.1, 12/00.
2. HMA = Hot Mix Asphalt
3. Production reported as 22,650 tons for 2010 (see memo dated November 5, 2010)

Asphalt Production (Tons)	
May	236
June	4,378
July	5,679
August	4,713
September	3,544
October	4,100
Total	22,650

2009 Actual Emission Inventory
Batch Mix Hot Mix Asphalt Plant, Criteria Pollutants
Tahoe Asphalt, South Lake Tahoe

Permit No.	HMA Production (tons/yr)	Emission Factors (lb/ton of HMA)					Actual Emissions (tons/yr)				
		CO	NOx	SOx	VOC	TSP	CO	NOx	SOx	VOC	TSP
08-167	24,203	0.4	0.025	0.0046	0.0082	0.042	**4.84**	**0.3**	**0.06**	**0.1**	**0.51**

Notes:
1. Emission factors for Batch Mix Hot Asphalt Plants from AP-42, Section 11.1, 12/00.
2. HMA = Hot Mix Asphalt
3. Production reported as 8,163 tons for 2009 (see memo dated 16 November 2009)

Asphalt Production (Tons)	
May	677
June	7,202
July	1,695
August	3,600
September	7,229
October	4,000
Total	24,403

2009 Actual Emission Inventory
Batch Mix Hot Mix Asphalt Plant, Criteria Pollutants
Tahoe Asphalt, South Lake Tahoe

Permit No.	HMA Production (tons/yr)	Emission Factors (lb/ton of HMA)					Actual Emissions (tons/yr)				
		CO	NOx	SOx	VOC	TSP	CO	NOx	SOx	VOC	TSP
08-167	24,203	0.4	0.025	0.0046	0.0082	0.042	4.84	0.3	0.06	0.1	0.51

Notes:
1. Emission factors for Batch Mix Hot Asphalt Plants from AP-42, Section 11.1, 12/00.
2. HMA = Hot Mix Asphalt
3. Production reported as 8,163 tons for 2009 (see memo dated 16 November 2009)

Asphalt Production (Tons)	
May	677
June	7,202
July	1,695
August	3,600
September	7,229
October	4,000
Total	**24,403**

2008 Actual Emission Inventory
Batch Mix Hot Mix Asphalt Plant, Criteria Pollutants
Tahoe Asphalt, South Lake Tahoe

Permit No.	HMA Production (tons/yr)	Emission Factors (lb/ton of HMA)					Actual Emissions (tons/yr)				
		CO	NOx	SOx	VOC	TSP	CO	NOx	SOx	VOC	TSP
08-167	25,595	0.4	0.025	0.0046	0.0082	0.042	5.12	0.32	0.06	0.1	0.54

Notes:
1. Emission factors for Batch Mix Hot Asphalt Plants from AP-42, Section 11.1, 12/00.
2. HMA = Hot Mix Asphalt
3. Production reported as 25,595 tons for 2008

2008 Potential Emissions Inventory

Asphalt Tank Oil Heater
Tahoe Asphalt, 1104 Industrial Avenue, South Lake Tahoe
App. 08-037

Permit No.	Maximum Allowable Hours		
	hr/day	hr/quarter	hr/yr
08-167	24	2190	8760

Pollutant	Emission Factor	Potential Emissions			
	#/MMBtu/Hr	(lb/hr)	(lbs/day)	(lbs/qtr)	(tons/yr)
ROC	0.025	0.04	0.8	77	0.15
NOx	0.092	0.13	3.1	285	0.57
SOx	0.007	0.01	0.2	22	0.04
PM10	0.007	0.01	0.2	22	0.04
CO	0.037	0.05	1.2	114	0.23

Notes:

1. Emission factor is from:
   ROC, NOx, CO and PM are based on data from CEI Report.
   SOx is based an assumed sulfur content of natural gas of 2000 gr/10^6 scf, which is negligible.

2. Emissions based on:
   a. 1,410,000 BTU/Hour

3. Daily emissions based on emission factor and 24 hours.
   Quarterly emissions based on emission factor and 2190 quarterly hours.
   Annual emissions based on emission factor and 8760 annual hours.

2850 Fairlane Court

Placerville, CA 95667

EL DORADO COUNTY AIR QUALITY MANAGEMENT DISTRICT

AUTHORITY TO CONSTRUCT EVALUATION

APPLICATION NO.:	08-037
DATE:	September 19, 2008
EVALUATION BY:	Air Quality Engineer/sm

A. FACILITY NAME: Tahoe Asphalt

B. LOCATION OF EQUIPMENT: 1104 Industrial Avenue, South Lake Tahoe

C. PROPOSAL: Installation and operation of a natural gas fired oil heater to replace an existing failing unit of approximately the same size.

D. INTRODUCTION:

Tahoe Asphalt is requesting the replacement of an aged natural gas fired oil heater with a newer one. The oil heater supplies heated oil to the asphalt plant currently permitted by El Dorado County AQMD permit number 08-167.

E. FLOW DIAGRAM: Not applicable

F. EQUIPMENT DESCRIPTION:

Liquid Asphalt Storage Tank w/Heater

Make:	Hyway
Model:	HYCG0-100
Serial No:	166592
Burner:	Power Flame
Burner Size:	1,410,000 BTU/Hour Max. Input
Fuel:	Natural Gas

G. CONTROL EQUIPMENT EVALUATION:

There are no add-on emission controls.

H. PROCESS RATE:

The oil heater has a maximum fuel usage of approximately 1.41MMBtu/hour.

I. OPERATING SCHEDULE:

The oil heater will be allowed to operate the same hours as the previous heater. This schedule allowed processing of 100,000 tons of asphalt per year. Previously permitted oil heater was permitted to operate 24 hours/day and 365 days/ year.

J. EMISSIONS CALCULATIONS:

1. HISTORIC ACTUAL EMISSIONS– FOR BACT PURPOSES (Rule 523.4.J)

This unit was less than 5 MMBtu/hr, as such fuel and hour monitoring were not required. Historic Actual Emissions were not recorded. Historical Actual Emissions should be set to Historic Potential Emissions.

Pollutant	Emission Factor (A) Lb/MMcf	Historic Actual Emissions		
		lb/day	lb/quarter	tons/year
ROC	8.0	0.2	17.5	0.0
NOx	100.0	2.4	219	0.4
SOx	0.6	0.0	1.3	0.0
PM10	12.0	0.3	26.3	0.1
CO	21.0	0.5	46	0.1

(A) Emission factors obtained from AP-42, Table 1.4-2, for uncontrolled emissions from commercial boilers. PM/PM10 emissions presumed to be included in baghouse emissions estimate.
(B) Heating content of natural gas assumed to be 1,000 BTU/cf.
(C) As specified in the application, the asphalt heater operates 24 hours/day, 365 days/year.
(D) ROC emissions include only nonmethane hydrocarbons.

2. HISTORIC POTENTIAL EMISSIONS – FOR OFFSET PURPOSES (Rule 523.4.M):

The Historic Potential Emissions for this unit were based on 24 hours/day and 365 days/year operation. The emission factors were obtained from AP-42 and are considered to be conservative. The unit was rated at 1.0 MMBtu/Hr.

Pollutant	Emission Factor (A) Lb/MMcf	Historic Potential to Emit		
		lb/day	lb/quarter	tons/year
ROC	8.0	0.2	17.5	0.0
NOx	100.0	2.4	219	0.4
SOx	0.6	0.0	1.3	0.0
PM10	12.0	0.3	26.3	0.1
CO	21.0	0.5	46	0.1

(A) Emission factors obtained from AP-42, Table 1.4-2, for uncontrolled emissions from commercial boilers. PM/PM10 emissions presumed to be included in baghouse emissions estimate.
(B) Heating content of natural gas assumed to be 1,000 BTU/cf.
(C) As specified in the application, the asphalt heater operates 24 hours/day, 365 days/year.
(D) ROC emissions include only nonmethane hydrocarbons.

3. PROPOSED POTENTIAL TO EMIT:

The Proposed Potential Emissions for this unit are based on 24 hours/day and 365 days/year operation. The emission factors were obtained from AP-42 and are considered to be conservative. The proposed unit is rated at 1.41 MMBtu/Hr.

Pollutant	Emission Factor (A) Lb/MMcf	Proposed Potential to Emit		
		lb/day	lb/quarter	tons/year
ROC	0.025	0.8	77	0.15
NOx	0.092	3.1	285	0.57
SOx	0.007	0.2	22	0.04
PM10	0.007	0.2	22	0.04
CO	0.037	1.2	114	0.23

(A) Emission factors obtained from data on CEI Report. SOx is based on an assumed sulfur content of natural gas of 2,000 gr/10^6 scf, which is negligible.
(B) Heating content of natural gas assumed to be 1,000 BTU/cf.
(C) As specified in the application, the asphalt heater operates 24 hours/day, 365 days/year.
(D) ROC emissions include only nonmethane hydrocarbons.

4. CALCULATION OF BACT TRIGGER (Rule 523.4.A):

NEI (BACT) = Net Emissions Increase for BACT purposes
= Proposed Potential to Emit - Historic Actual Emissions
MPE = Maximum Potential Emissions on a 24-Hour Day Operation

Pollutant	NEI (BACT) lb/qtr	Is NEI (BACT) >0 ?	MPE lb/day	BACT Trigger lb/day	Is BACT Required?
ROC	60	Yes	0.8	>=10	No
NOx	66	Yes	3.1	>=10	No
SOx	20.7	Yes	0.2	>=10	No
PM10	-4.3	No	0.2	>=10	No
CO	68	Yes	1.2	>=550	No

5. CALCULATION OF EMISSIONS OFFSET TRIGGER FOR ROC, NOx AND CO (Rule 523.4.K):

Permit No.	Emissions Unit	Stationary Source Potential to Emit lb/quarter		
		ROC	NOx	CO
8-167	Asphalt Plant	205	625	10,000

Permit No.	Emissions Unit	Stationary Source Potential to Emit lb/quarter		
		ROC	NOx	CO
5-657	Aggregate Plant	0	0	0
15-1123	Internal Combustion Engine	3	88	28
App. 08-037	New Asphalt Storage Tank	77	285	114
Total		285	998	10,142
Trigger Level		>5,000	>5,000	>7,500

6. CALCULATION OF EMISSION OFFSET TRIGGER FOR SOx AND PM10 (Rule 523.4.L):

Permit No.	Emissions Unit	Stationary Source Potential to Emit lb/quarter	
		SOx	PM10
8-167	Asphalt Plant	115	1,050
5-657	Aggregate Plant	0	58
15-1123	Internal Combustion Engine	8	9
App. 08-037	New Asphalt Storage Tank	22	22
Total		145	1,139
Trigger Level		>12,500	>7,500

K. COMPLIANCE WITH RULES AND REGULATIONS:

1. CALIFORNIA HEALTH AND SAFETY CODE 42301.6:

The proposed process is not located within 1000 feet of the outer boundary of a K – 12 school. Therefore, the public noticing requirement of Health and Safety Code Section 42301.6 does not apply.

2. NEW SOURCE REVIEW COMPLIANCE:

Rule 523.3.A – Best Available Control Technology

All criteria pollutant emissions from the process do not exceed the BACT trigger limit specified by Rule 523.3.A. Therefore, the requirement to use BACT is not applicable.

Rule 523.3.B – Offset Requirements

Non-Attainment criteria pollutant emissions from the new asphalt tank heater do not exceed the offset trigger level specified by Rule 523.3.B. Therefore, the requirement to offset the emission of any of the criteria pollutants is not applicable.

Rule 523.3.H – CEQA Applicability

The significance levels for CEQA review are 82 lb/day of NOx and 82 lb/day of ROC. The daily NOx and ROC are 0.8 lb/day ROC and 3.1 lb/day NOx. The emissions for this project do not trigger CEQA review.

3. **PSD COMPLIANCE:** Not applicable.

4. **PROHIBITORY RULES COMPLIANCE**

Rule 202 - Visible Emissions

The previous asphalt tank has been in operation for many years with no violation. Emissions for the new unit are expected to comply with the 20% opacity requirement of this rule

An inspection of this facility was performed on August 20 and August 28, 2008 by Mr. Dennis Otani, Senior Air Quality Specialist. Both inspections indicated the asphalt plant was operating in compliance with permit requirements. It was not indicated in the inspection report the Asphalt Tank Oil Heater had been replaced prior to the inspection. Therefore based on two successful inspections, it is assumed the new Asphalt Tank Oil Heater will comply with the opacity requirement of Rule 202.

Rule 205 - Nuisance

The previous asphalt tank has been in operation for many years with no violations. Emissions for the new unit are not expected to cause a nuisance and comply with this rule.

An inspection of this facility was performed on August 20 and August 28, 2008 by Mr. Dennis Otani, Senior Air Quality Specialist. Both inspections indicated the asphalt plant was operating in compliance with permit requirements. It was not indicated in the inspection report the Asphalt Tank Oil Heater had been replaced prior to the inspection. Therefore based on two successful inspections, it is assumed the new Asphalt Tank Oil Heater will not cause a nuisance and will comply with the requirements of Rule 205.

Rule 210 - Specific Contaminants

Emissions from the oil heater are expected to comply with the emissions limit of 0.2% by volume sulfur compounds as SO2 and 0.1 grains/dscf of other combustion gases calculated to 12% CO2 as shown below:

SO2 Emission Factor = 0.6 lb SO2/10^6 ft^3
PM Emission Factor = 12 lb PM/10^6 ft^3

PM concentration:

= PM10 emission rate / Exhaust airflow rate

= (12 lb PM/10^6 ft^3)(1/1000 ft^3 nat gas/BTU)(20.9) / (20.9)(2542.5 BTU/hp-hr)(1/engine efficiency of 0.35)(9190 dscf/mmBTU)

= 133.3 grains/hour / 6,409 ft3/hour

= 0.021 grains/ft3 (Rule limit 0.1 grains/ft3)

% SO_2 by volume: (Rule limit 0.2%)

The SO2 emission concentration from the asphalt heater are estimated using the natural gas combustion emission factors from Table 1.4-2 of AP-42 and equation 19-1 of 40 CFR 60, Appendix A, Method 19. The SO2 emission factor is 0.6 lb SO2/10^6 ft^3. Since no information was provided regarding the excess oxygen concentration of the asphalt heater exhaust, the excess oxygen is assumed to be zero which yields the highest emission concentration.

= 2,000 ppmv SO2 + 5.3 X 10^6 ug SO2/m^3 = 3.3 X 10^4 lb SO2/ft^3 exhaust gas

= Volumetric SO2 Emission Rate / Volumetric Combustion Gas Emission Rate

= 0.6 (lb SOx/10^6 ft^3 nat gas) * 1/1000 (ft^3 nat gas/BTU)* (10^6/8,710 BTU/dscf exhaust gas) * (20.9 -0)/20.9

= 6.89 X 10^8 lb SO2/dscf exhaust gas (less than 3.3 X 10^4 lb SO2/ft^3)

Rule 229 - Industrial, Institutional, and Commercial Boilers, Steam Generators and Process Heaters

The Asphalt Tank Oil Heater fuel consumption is 1.41 Million Btu/hr (not greater than or equal to 5 Million Btu per hour per 229.1 B) therefore is exempt and does not invoke the requirements of this rule.

5. **NSPS COMPLIANCE:** Not applicable

6. **NESHAP COMPLIANCE:** Not applicable

L. RECOMMENDATION:

The Asphalt Tank Oil Heater should comply with all applicable El Dorado County AQMD, State

of California Air Resources Board and U.S. EPA rules and regulations.

This application is for an Asphalt Tank Oil Heater installed in the summer of 2008. An Authority to Construct is not required. Permit to Operate number 8-167 should be modified with the following conditions.

CONDITIONS:

Refer to conditions on proposed Permit to Operate 08167

REVIEWED BY: _____ **DATE:** 9/19/08

The estimated emission concentration is significantly less than the allowable emission concentration. Therefore, sulfur dioxide emissions from the baghouse should comply with the requirements of Rule 210(A). Even though the sulfur dioxide emission factor rating is D, no additional performance testing is recommended due to this wide compliance margin.

Note: The preceding analysis, which is based on an AP-42 emission factor with a "D" rating, should be considered an indication that some sources of this size and type will comply with the applicable standard. **It is not, however, a demonstration that this specific source can and will comply with the applicable standard.**

Rule 210(B) specifies that combustion contaminant (particulate matter) emissions from a source can not exceed 0.1 gr/dscf at 12% CO_2. However, Rule 210(C) states that particulate emissions from a source that is used to dry process material are not to be considered combustion contaminants. If the particulate matter emissions from burner in the aggregate dryer are removed from consideration as combustion contaminants, then no other products of combustion are emitted from the baghouse; therefore, the requirements of Rule 210(B) do not apply to the baghouse exhaust.

Permit Requirements - In order to ensure compliance with the requirements of Rule 210(A), Tahoe Asphalt should be limited to using natural gas as the fuel for the asphalt plant's aggregate dryer burner.

Asphalt Heater

Compliance Analysis - Rule 210(A) specifies that sulfur dioxide emissions from a source can not exceed 2000 ppmv. For combustion sources, sulfur dioxide emissions are predominantly a function of the sulfur content of the fuel source. Tahoe Asphalt is using natural gas as the fuel source. The sulfur content of natural gas is assumed to be approximately 2000 gr/10^6 scf[4], which is negligible. While a source is typically presumed to be in compliance with the requirements of Rule 201(A) when using natural gas, compliance can be demonstrated as follows:

Allowable SO_2 Concentration = 2,000 ppmv SO_2 = 5.3×10^6 μg SO_2/m^3 = **3.3×10^{-4} lb SO_2/ft^3 exhaust gas.**

The SO_2 emission concentration from the asphalt heater are estimated using the natural gas combustion emission factors from Table 1.4-2 of AP-42 and equation 19-1 of 40 CFR 60 Appendix A, Method 19. The SO_2 emission factor, which has an emission factor rating of A, is 0.6 lb $SO_2/10^6$ ft^3. Since no information was provided regarding the excess oxygen concentration of the asphalt heater exhaust, the excess oxygen is assumed to be zero which yields the highest emission concentration. Using a natural gas heating value of 1000 BTU/ft^3, the baghouse exhaust concentration is calculated as follows:

Equation 19-1 $C_c = E * (20.9 - \%O_2) / (20.9 * F_d)$

Where: Cd = Emission Concentration (lbs/scf)

E = Emission Rate (lbs/MMBtu)

[4]AP-42, Table 1.4-2, Footnote C.

F_d = F Factor from Table 19-1
$\%O_2$ = Excess Oxygen

Est. SO_2 Concentration = 0.6 [lb $SO_2/10^6$ ft^3 nat gas] * (1/1000) [ft^3 nat gas/BTU] * (10^6 / 8,710) [BTU/dscf exhaust gas] * [(20.9 - 0)/20.9]
= 6.89×10^{-8} lb SO_2/dscf exhaust gas

Because the estimated emission concentration is significantly less than the allowable emission concentration, sulfur dioxide emissions from the liquid asphalt heater should comply with the requirements of Rule 210(A). Due to the wide compliance margin, performance testing is not recommended to confirm compliance.

Rule 210(B) specifies that combustion contaminant (particulate matter) emissions from a source can not exceed 0.1 gr/dscf at 12% CO_2. The PM emission concentration from the asphalt heater are estimated using the natural gas combustion emission factors from Table 1.4-2 of AP-42 and equation 19-1 of 40 CFR 60 Appendix A, Method 19. The PM emission factor, which has an emission factor rating of C, is 12.0 lb PM/10^6 ft^3. Since no information was provided regarding the excess oxygen concentration of the asphalt heater exhaust, the excess value of 1000 BTU/ft^3, the baghouse exhaust concentration is calculated as follows:

Equation 19-1 $C_d = E * (20.9 - \%O_2) / (20.9 * F_d)$
Where:
Cd = Emission Concentration (lbs/scf)
E = Emission Rate (lbs/MMBtu)
F_d = F Factor from Table 19-1
$\%O_2$ = Excess Oxygen

Est. PM Concentration = 12.0 [lb PM/10^6 ft^3 nat gas] * (1/1000) [ft^3 nat gas/BTU] * (10^6 / 8,710) [BTU/dscf exhaust gas] * [(20.9 - 0)/20.9]
= 1.38×10^{-6} lb PM/dscf
= 0.010 grains PM/dscf exhaust gas

Using information from the above calculation and equation 19-6 from Method 19, the CO_2 concentration is calculated at 11.96%, or nearly 12%.

Because the estimated emission concentration is less than the allowable emission concentration, PM emissions from the liquid asphalt heater should comply with the requirements of Rule 210(A). Due to the compliance margin, performance testing is not recommended to confirm compliance.

Permit Requirements - In order to ensure compliance with the requirements of Rule 210(B), the asphalt heater should be limited to using natural gas.

Rules 211/212

Liquid Asphalt Storage Tank Combustion Emissions

Pollutant	Emission Factor	Rating	Potential Emissions			
			Daily	Quarterly	Annual	
Units	(lb/MMcf)	MMBTU/hr	(lbs)	(lbs)	(lbs)	(tons)
SO2	0.6	1.00	0.0	1.3	5.3	0.0
NOx	100.0	1.00	2.4	219.0	876.0	0.4
CO	21.0	1.00	0.5	46.0	184.0	0.1
ROC	8.0	1.00	0.2	17.5	70.1	0.0
PM/PM10	12.0	1.00	0.3	26.3	105.1	0.1

Notes:

1. Emission factors obtained from AP-42, Table 1.4-2, for uncontrolled emissions from commercial boilers. PM/PM10 emissions presumed to be included in baghouse emissions estimate.
2. Heating content of natural gas assumed to be 1000 BTU/cf.
3. As specified in the application, the asphalt heater operates 24 hrs/day, 365 days per year.
4. ROC emissions include only nonmethane hydrocarbons.
5. All PM emissions are assumed to be PM10.

2007 Actual Emission Inventory
Batch Mix Hot Mix Asphalt Plant, Criteria Pollutants
Tahoe Asphalt, South Lake Tahoe

Permit No.	HMA Production (tons/yr)	Emission Factors (lb/ton of HMA)					Actual Emissions (tons/yr)				
		CO	NOx	SOx	VOC	TSP	CO	NOx	SOx	VOC	TSP
08-167	23,287	0.4	0.025	0.0046	0.0082	0.042	4.66	0.29	0.05	0.1	0.49

Notes:
1. Emission factors for Batch Mix Hot Asphalt Plants from AP-42, Section 11.1, 12/00.
2. HMA = Hot Mix Asphalt
3. Production reported as 23,287 tons for 2007

2007 Actual Emission Inventory, Batch Mix Hot Mix Asphalt Plant, Hazardous Air Pollutants
Tahoe Asphalt, South Lake Tahoe

Pollutant	CAS	Emission Factor (lb/ton of HMA)	Actual Emissions (lb/yr)	Actual Emissions (ton/yr)
Acetaldehyde	75-07-0	0.00032	7.45184	0.00373
Benzene	71-43-2	0.00028	6.52036	0.00326
Ethylbenzene	100-41-4	0.0022	51.23140	0.02562
Formaldehyde	50-00-0	0.00074	17.23238	0.00862
Quinone	106-51-4	0.00027	6.28749	0.00314
Toluene	108-88-3	0.001	23.28700	0.01164
Xylene	1330-20-7	0.0027	62.87490	0.03144
2-Methylnaphthalene	91-57-6	7.00E-05	1.63009	0.00082
Acenaphthene	83-32-9	9.00E-07	0.02096	0.00001
Acenaphthylene	208-96-8	5.80E-07	0.01351	0.00001
Anthracene	120-12-7	2.10E-07	0.00489	0.00000
Benzo(a)anthracene	56-55-3	4.60E-09	0.00011	0.00000
Benzo(a)pyrene	50-32-8	3.10E-10	0.00001	0.00000
Benzo(b)fluoranthene	205-99-2	9.40E-09	0.00022	0.00000
Benzo(g,h,i)perylene	191-24-2	5.00E-10	0.00001	0.00000
Benzo(k)fluoranthene	207-08-9	1.30E-08	0.00030	0.00000
Chrysene	218-01-9	3.80E-09	0.00009	0.00000
Dibenz(a,h)anthracene	53-70-3	9.50E-11	0.00000	0.00000
Fluoranthene	206-44-0	1.60E-07	0.00373	0.00000
Fluorene	86-73-7	1.60E-06	0.03726	0.00002
Indeno(1,2,3-cd)pyrene	193-39-5	3.00E-10	0.00001	0.00000
Naphthalene	91-20-3	3.60E-05	0.83833	0.00042
Phenanthrene	85-01-8	2.60E-06	0.06055	0.00003
Pyrene	129-00-0	6.20E-08	0.00144	0.00000
Total			**177.50**	**0.09**

2006 Actual Emission Inventory, Batch Mix Hot Mix Asphalt Plant, Criteria Pollutants
Tahoe Asphalt, South Lake Tahoe, California

Permit No.	HMA Production (tons/yr)	Emission Factors (lb/ton of HMA)					Actual Emissions (tons/yr)				
		CO	NOx	SOx	VOC	TSP	CO	NOx	SOx	VOC	TSP
08-167	15,078	0.4	0.025	0.0046	0.0082	0.042	3.02	0.19	0.03	0.06	0.32

Notes:
1. Emission factors for Batch Mix Hot Asphalt Plants from AP-42, Section 11.1, 12/00.
2. HMA = Hot Mix Asphalt
3. Production reported as 15,078 tons for 2006

2005 Actual Emission Inventory, Batch Mix Hot Mix Asphalt Plant, Criteria Pollutants
Tahoe Asphalt, South Lake Tahoe, California

Permit No.	HMA Production (tons/yr)	Emission Factors (lb/ton of HMA)					Actual Emissions (tons/yr)				
		CO	NOx	Sox	VOC	TSP	CO	NOx	Sox	VOC	TSP
08-167	24,727	0.4	0.025	0.0046	0.0082	0.042	4.95	0.31	0.06	0.1	0.52

Notes:
1. Emission factors for Batch Mix Hot Asphalt Plants from AP-42, Section 11.1, 12/00.
2. HMA = Hot Mix Asphalt
3. Production reported as 24,727 tons for May thru October 2005 (Tahoe Asphalt letter dated 1/6/05)

2004 Actual Emission Inventory, Batch Mix Hot Mix Asphalt Plant, Criteria Pollutants
Tahoe Asphalt, South Lake Tahoe, California

Permit No.	HMA Production (tons/yr)	Emission Factors (lb/ton of HMA)					Actual Emissions (tons/yr)				
		CO	NOx	Sox	VOC	TSP	CO	NOx	Sox	VOC	TSP
08-167	25,799	0.4	0.025	0.0046	0.0082	0.042	5.16	0.32	0.06	0.11	0.54

Notes:
1. Emission factors for Batch Mix Hot Asphalt Plants from AP-42, Section 11.1, 12/00.
2. HMA = Hot Mix Asphalt
3. Production reported as 25,799 tons for May thru October 2005 (Tahoe Asphalt letter dated 1/6/05)

2003 Actual Emission Inventory, Batch Mix Hot Mix Asphalt Plant, Criteria Pollutants
Tahoe Asphalt, South Lake Tahoe, California

Permit No.	HMA Production (tons/yr)	Emission Factors (lb/ton of HMA)					Actual Emissions (tons/yr)				
		CO	NOx	Sox	VOC	TSP	CO	NOx	Sox	VOC	TSP
08-167-01	35,414	0.4	0.025	0.0046	0.0082	0.042	7.08	0.44	0.08	0.15	0.74

Notes:
1. Emission factors for Batch Mix Hot Asphalt Plants from AP-42, Section 11.1, 12/00.
2. HMA = Hot Mix Asphalt

2002 Actual Emission Inventory, Batch Mix Hot Mix Asphalt Plant, Criteria Pollutants
Tahoe Asphalt, South Lake Tahoe, California

Permit No.	HMA Production (tons/yr)	Emission Factors (lb/ton of HMA)					Actual Emissions (tons/yr)				
		CO	NOx	Sox	VOC	TSP	CO	NOx	Sox	VOC	TSP
08-167-01	34,328	0.4	0.025	0.0046	0.0082	0.042	6.87	0.43	0.08	0.14	0.72

Notes:
1. Emission factors for Batch Mix Hot Asphalt Plants from AP-42, Section 11.1, 12/00.
2. HMA = Hot Mix Asphalt

2001 Actual Emission Inventory, Batch Mix Hot Mix Asphalt Plant, Criteria Pollutants
Tahoe Asphalt, South Lake Tahoe, California

Permit No.	HMA Production (tons/yr)	Emission Factors (lb/ton of HMA)					Actual Emissions (tons/yr)				
		CO	NOx	Sox	VOC	TSP	CO	NOx	Sox	VOC	TSP
08-167-01	36,793	0.4	0.025	0.0046	0.0082	0.042	7.36	0.46	0.08	0.15	0.77

Notes:
1. Emission factors for Batch Mix Hot Asphalt Plants from AP-42, Section 11.1, 12/00.
2. HMA = Hot Mix Asphalt

2001 Actual Emission Inventory, Batch Mix Hot Mix Asphalt Plant, Hazardous Air Pollutants
Tahoe Asphalt, South Lake Tahoe, California

Pollutant	CAS	Emission Factor (lb/ton of HMA)	Actual Emissions (lb/yr)	Actual Emissions (ton/yr)
Acetaldehyde	75-07-0	0.00032	11.77376	0.00589
Benzene	71-43-2	0.00028	10.30204	0.00515
Ethylbenzene	100-41-4	0.0022	80.94460	0.04047
Formaldehyde	50-00-0	0.00074	27.22682	0.01361
Quinone	106-51-4	0.00027	9.93411	0.00497
Toluene	108-88-3	0.001	36.79300	0.01840
Xylene	1330-20-7	0.0027	99.34110	0.04967
2-Methylnaphthalene	91-57-6	7.00E-05	2.57551	0.00129
Acenaphthene	83-32-9	9.00E-07	0.03311	0.00002
Acenaphthylene	208-96-8	5.80E-07	0.02134	0.00001
Anthracene	120-12-7	2.10E-07	0.00773	0.00000
Benzo(a)anthracene	56-55-3	4.60E-09	0.00017	0.00000
Benzo(a)pyrene	50-32-8	3.10E-10	0.00001	0.00000
Benzo(g,h,i)perylene	191-24-2	8.00E-10	0.00003	0.00000
Benzo(k)fluoranthene	207-08-9	1.30E-08	0.00048	0.00000
Chrysene	218-01-9	3.80E-09	0.00014	0.00000
Dibenz(a,h)anthracene	53-70-3	9.50E-11	0.00000	0.00000
Fluoranthene	206-44-0	1.60E-07	0.00589	0.00000
Fluorene	86-73-7	1.60E-06	0.05887	0.00003
Indeno(1,2,3-cd)pyrene	193-39-5	3.00E-10	0.00001	0.00000
Naphthalene	91-20-3	3.60E-05	1.32455	0.00066
Phenanthrene	85-01-8	2.60E-06	0.09566	0.00005
Pyrene	129-00-0	6.20E-08	0.00228	0.00000
Total			**280.44**	**0.14**

2000 Actual Emission Inventory, Batch Mix Hot Mix Asphalt Plant, Criteria Pollutants
Tahoe Asphalt, South Lake Tahoe, California

Permit No.	HMA Production (tons/yr)	Emission Factors (lb/ton of HMA)					Actual Emissions (tons/yr)				
		CO	NOx	Sox	VOC	TSP	CO	NOx	Sox	VOC	TSP
08-167-01	40,399	0.4	0.025	0.0046	0.0082	0.042	8.08	0.5	0.09	0.17	0.85

Notes:
1. Emission factors for Batch Mix Hot Asphalt Plants from AP-42, Section 11.1, 12/00.
2. HMA = Hot Mix Asphalt

2001 Actual Emission Inventory, Batch Mix Hot Mix Asphalt Plant, Hazardous Air Pollutants
Tahoe Asphalt, South Lake Tahoe, California

Pollutant	CAS	Emission Factor (lb/ton of HMA)	Actual Emissions (lb/yr)	Actual Emissions (ton/yr)
Acetaldehyde	75-07-0	0.00032	12.92768	0.00646
Benzene	71-43-2	0.00028	11.31172	0.00566
Ethylbenzene	100-41-4	0.0022	88.87780	0.04444
Formaldehyde	50-00-0	0.00074	29.89526	0.01495
Quinone	106-51-4	0.00027	10.90773	0.00545
Toluene	108-88-3	0.001	40.39900	0.02020
Xylene	1330-20-7	0.0027	109.07730	0.05454
2-Methylnaphthalene	91-57-6	7.00E-05	2.82793	0.00141
Acenaphthene	83-32-9	9.00E-07	0.03636	0.00002
Acenaphthylene	208-96-8	5.80E-07	0.02343	0.00001
Anthracene	120-12-7	2.10E-07	0.00848	0.00000
Benzo(a)anthracene	56-55-3	4.60E-09	0.00019	0.00000
Benzo(a)pyrene	50-32-8	3.10E-10	0.00001	0.00000
Benzo(b)fluoranthene	205-99-2	9.40E-09	0.00038	0.00000
Benzo(g,h,i)perylene	191-24-2	5.00E-10	0.00002	0.00000
Benzo(k)fluoranthene	207-08-9	1.30E-08	0.00053	0.00000
Chrysene	218-01-9	3.80E-09	0.00015	0.00000
Dibenz(a,h)anthracene	53-70-3	9.50E-11	0.00000	0.00000
Fluoranthene	206-44-0	1.60E-07	0.00646	0.00000
Fluorene	86-73-7	1.60E-06	0.06464	0.00003
Indeno(1,2,3-cd)pyrene	193-39-5	3.00E-10	0.00001	0.00000
Naphthalene	91-20-3	3.60E-05	1.45436	0.00073
Phenanthrene	85-01-8	2.60E-06	0.10504	0.00005
Pyrene	129-00-0	6.20E-08	0.00250	0.00000
Total			**307.93**	**0.15**

EL DORADO COUNTY
AIR POLLUTION CONTROL DISTRICT
MEMORANDUM

DATE: July 19, 1999
TO: File
FROM: Don Holkestad, Air Quality Engineer Don
COPY: Marie Filippello

SUBJECT: **Tahoe Asphalt - [redacted] and [redacted]**

1. Tahoe Asphalt Inc. 06-830-01. Existing asphalt cement heater. This heater was added to existing equipment list on primary permit-to-operate, # 08-167-01. Since this was the only purpose of A/C 06-830-01, that A/C can be canceled. Changes required on 08-167-01 were submitted to Marie Filippello, for incorporation in the next renewal, effective 6/11/99. Finished. 7/19/99.

2. Note will be added to folder for 08-167-01 stating that information on the asphalt heater can be found in the closed A/C 06-830-01.

El Dorado County
APCD

Memo

=> RON

To: Dennis Otani, Program Manager

Thru: Dave Mehl, District Engineer

From: Bob Hughes, Air Quality Specialist

Date: July 14, 1998

Re: Engineering Evaluation: Tahoe Asphalt, Inc.'s Asphalt Plant

---

I have completed my engineering evaluation of Tahoe Asphalt Inc.'s hot mix asphalt plant, the effective Permit to Operate (P/O #08-167-01), and the applicable air quality control requirements. In summary, I recommend that the District issue Tahoe Asphalt Inc. a new Permit to Operate that includes the asphalt plant, the baghouse, and the liquid asphalt heater, and contains conditions that ensure compliance with the applicable District-enforceable air quality control requirements. Please let me know if there are any questions regarding this evaluation.

Also, please note that during our May 14, 1998, meeting with Mike Plumer and Dan Barber, we agreed to send Tahoe Asphalt a draft permit for their review.

Engr Eval
faxed to
Dan Barber
on 8/4/98.

ENGINEERING EVALUATION OF APPLICATION NO. #08-167-01 FOR AN ASPHALT PLANT AT TAHOE ASPHALT, INC.

Prepared By:

Bob Hughes, Air Quality Specialist
El Dorado County Air Pollution Control District
2850 Fairlane Court
Placerville, CA 95667

Approved By:

El Dorado County Air Pollution Control District
2850 Fairlane Court
Placerville, CA 95667

Application Submitted By:

Tahoe Asphalt, Inc.
P.O. Box 8378
South Lake Tahoe, CA 96158

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1. INTRODUCTION

The El Dorado County Air Pollution Control District (District) promulgated Rule 501 - General Permit Requirements, to provide for the review of new, modified, or existing (but not yet permitted) sources of air pollution through the issuance of permits. Rule 501 specifies that any facility installing non-exempt equipment which causes or controls the emission of air pollutants must first obtain an Authority to Construct permit from the District. In addition, the District promulgated Rule 523 - New Source Review, to provide mechanisms by which Authorities to Construct may be granted to new or modified air pollution sources without interfering with the attainment or maintenance of the State ambient air quality standards. As specified in Rule 523, some applicants may be required to install best available control technology (BACT) to minimize emissions. In addition, some applicants may be required to offset emissions increases such that operation of the new or modified source does not result in an increase of air pollution within the District.

Tahoe Asphalt, Inc. owns and operates a hot mix asphalt plant, which has been in operation since asphalt plant is currently permitted as equipment associated with the unit's baghouse, which is the primary source noted on P/O #08-167-01. However, in accordance with a June 4, 1997 letter issued by the District, the sources need to be re-permitted with the asphalt plant listed as the primary source. Equipment associated with the asphalt plant, including the baghouse, will also be identified on the permit. Additionally, the District received application #06-830-01 for a liquid asphalt heater on June 30, 1997. As the liquid asphalt heater is directly associated with the asphalt plant, this source will also be addressed in the following analysis and identified on the permit. Under the authority of section 501.3(F) of District Rule 501, the District will take this opportunity to ensure that the permit conditions are adequate to ensure compliance with all District rules and regulations.

In light of the preceding discussion, the purpose of this analysis is to re-establish permit conditions, as necessary, for Tahoe Asphalt, Inc's asphalt plant Permit to Operate.

2. APPLICANT IDENTIFICATION & FACILITY LOCATION

Business Name:	Tahoe Asphalt, Inc.
Equipment Location:	1104 Industrial Avenue South Lake Tahoe, CA 96150
Owner:	Michael L. Plumer
Permittee:	Tahoe Asphalt, Inc. P.O. Box 8373

South Lake Tahoe, CA 96158
(530) 541-0133

Facility Contact: Russell Crawford, General Manager
(530) 541-0133

3. FACILITY DESCRIPTION

The asphalt plant was originally opened in 1954, but was modified in 1984 with the installation of a baghouse and the replacement of the aggregate dryer. While the previous aggregate dryer used diesel and reclaimed oil as the fuel source, the new dryer operates on natural gas.

The asphalt plant has been in operation under the current ownership since April 1995. The Plant manufactures hot mix asphalt paving materials, as needed, for immediate shipment to local construction sites. The hot mix asphalt production season generally extends between May and October; estimated annual hot mix asphalt production is approximately 37,000 tons. Raw material consists of liquid asphalt cement and aggregate. The current permit also authorizes the introduction of a limited amount of petroleum contaminated soil into the asphalt production process. Potential air pollution sources at the Plant include:

- Aggregate plant (A/C #05-657-01);
- Aggregate stockpiles;
- Asphalt Plant;
- Baghouse (P/O #08-167-01);
- Aggregate dryer;
- Liquid asphalt cement storage tank;
- Diesel storage tank (Exempt); and
- Solvent cleaning tank (E/C #10-829-01).

4. DESCRIPTION OF SOURCES

Tahoe Asphalt's hot mix asphalt plant, which is rated at 144 tons per hour, uses a batch mix-type process. This process consists of the following equipment: cold storage bins, an aggregate dryer, a hot elevator, a hot screen, a hot feed bin, a weigh hopper, a pugmill, and a liquid asphalt storage tank (with heater). Non-fugitive emissions from the asphalt plant are controlled by a Standard Havens baghouse. The baghouse uses a 250 hp motor and consists of 512 6" x 60" Nomex bags. The baghouse employs a pulse jet forced air cleaning method.

Combustion sources associated with the asphalt plant, including the aggregate dryer and the liquid asphalt storage tank heater, use natural gas as the fuel source. In addition, the current permit to operate, P/O #08-167-01, authorizes a limited amount of petroleum contaminated soils to be introduced into the aggregate of the asphalt production process. This permit limits the amount of contaminated soils to 2800 tons per year and no more than 10% of the total aggregate

mix.

The batch mix process used at Tahoe Asphalt is described in District Inspector Michael Donnelly's report of his October 6, 1996, inspection.

> "The raw materials were mainly stockpiled on the ground but are eventually picked up by a loader and dumped in cold feed bins. From the cold feed bin, the materials are transferred via conveyors to go through the dryer. At the bottom of the dryer the materials are taken up by a hot elevator. The elevator then dumps the materials to a plant screen. The plant screen separates the aggregates into sizes of ½" fines, 3/8" aggregates, ½" aggregates, 3/4" aggregates. After the materials are separated in the plant screen, the materials enter the hot feed bins. Each hot feed bin has a gate. The gates are controlled by an operator with the use of a computer at the control room. Depending on the product ordered, the gate on the specific materials identified in the formula is opened and the material is transferred by gravity to the weigh hopper. After the material is weighed, it is transferred to a pugmill. When all the specific materials identified in the job mix formula have been weighed separately in the weigh hopper and placed in the pugmill, the pugmill mixes the materials with asphalt for approximately 40 seconds. After the materials are mixed, it is then loaded o the receiving truck."

A detailed description of the equipment associated with the operation of the asphalt plant is noted below in Table 1.

Table 1
Description of Sources

Description	Manufacturer	Model	Rating
Hot Mix Batch Plant	Madsen Iron Works	n/a	144 ton/hr
Aggregate Dryer	Madsen Iron Works	8 x 32	60 MMBtu/hr
Liquid Asphalt Storage Tank w/Heater	Childers	YE100	20,000 gal 1 MMBtu/hr
Baghouse	Standard Havens	Magnum 8.5	n/a

5. ESTIMATED EMISSIONS

Air pollutant emissions associated with the operation of the asphalt plant consist of particulate matter (PM) and the products of natural gas combustion. PM is emitted directly from the baghouse exhaust stack, and as fugitive emissions from related activity such as aggregate storage pile handling and driving over paved and unpaved roads on and adjacent to the facility.

Combustion products are emitted from the operation of the rotary dryer and the liquid asphalt storage tank heater.

The current permit to operate, P/O #08-167-01, limits facility operation to 130,000 tons per year. Therefore, potential annual and quarterly emissions are calculated based on this operating limit. However, potential daily emissions are estimated at the maximum capacity of the asphalt plant: 144 tons/hr.

The applicant's consultant, Mr. Dan Barber, provided the District with a copy of a guidance document used by some districts to estimate emissions from hot mix asphalt concrete plants. This guidance document was prepared in 1993 by the Sacramento Valley Air Quality Engineering and Enforcement Professionals (SVEEPs), a group of local district permit engineers and inspectors. While this guidance document does provide emission factor information for various types of hot mix asphalt plants, it does not provide sufficient supporting documentation to warrant its use over the January 1995 update of AP-42 asphalt plant emission factors. The source test results supplied by the SVEEPs guidance document do not adequately identify the type of facility (batch mix vs. drum mix) or the rating of the dryer burner. In addition, there is not enough information on the individual facilities tested to allow someone to retrieve the individual test results from the respective district. As such, AP-42 will be used to estimate emissions[1]. (It should be noted, however, that the results presented in the SVEEPs guidance document are within the same range as the AP-42 emission factors. In fact, some of the SVEEPs data suggests that the AP-42 estimates may be low.) Emission estimates are calculated on the attached spreadsheets and summarized below in Table 2.

[1]It is important to note that the emission factor rating for the baghouse particulate matter estimates is D, which indicates the factor is below average.

Table 2
Potential Emissions

	SO2			NOx			CO			ROC			PM			PM_{10}		
Source	lb/day	lb/qtr	lb/yr	lb/day	lb/qtr	lb/yr	lb/day	lb/qtr	lb/yr	lb/day	lb/qtr	lb/yr	lb/day	lb/qtr	lb/yr	lb/day	lb/qtr	lb/yr
Plant	17.3	600.0	650.0	86.4	3,000.0	3,250.0	1,175.0	40,800.0	44,200.0	58.8	2,040.0	2,210.0	152.1	5,280.0	5,720.0	69.1	2,400.0	2,60
Heater	**0.0**	**1.3**	**5.3**	**2.4**	**219.0**	**876.0**	**0.5**	**46.0**	**184.0**	**0.2**	**17.5**	**70.1**	**0.3**	**26.3**	**105.1**	**0.3**	**26.3**	**105.1**
Fugitive	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	2,723.0	n/a	n/a	597.0
Total	**17.3**	**601.3**	**655.3**	**88.8**	**3,219.0**	**4,126.0**	**1,175.5**	**40,846.0**	**44,384.0**	**59.0**	**2,057.5**	**2,280.1**	**152.4**	**5,306.3**	**8,548.1**	**69.4**	**2,426.3**	**3,302.1**

6. BACT ANALYSIS

Rule 523 applies to the installation, construction or modification of new stationary sources and emissions units, unless specifically exempted. Tahoe Asphalt is not installing a new source or modifying an existing source; therefore, Rule 523 does not apply and BACT is not necessary.

7. OFFSET ANALYSIS

Rule 523 applies to the installation, construction or modification of new stationary sources and emissions units, unless specifically exempted. Tahoe Asphalt is not installing a new source or modifying an existing source; therefore, Rule 523 does not apply and Offsets are not necessary.

8. COMPLIANCE WITH DISTRICT REGULATIONS

Section 501.3(C) of Rule 501 requires an applicant to demonstrate compliance with all applicable District, state, and federal air quality control requirements. The District requirements applicable to Tahoe Asphalt's asphalt plant are noted below. A compliance analysis follows.

- Rule 202 - Visible Emissions
- Rule 205 - Nuisance
- Rule 207 - Particulate Matter
- Rule 210 - Specific Contaminants
- Rules 211/212 - Process Weight
- Rule 223 - Fugitive Dust
- Rule 224 - Cutback Asphalt and Emulsion Paving Material
- Rule 501 - General Permit Requirements
- Rule 516 - Upset and Breakdown Conditions
- Contaminated Soils
- NSPS Subpart I - Hot Mix Asphalt Facilities

Rule 202 - Visible Emissions

Applicability - Rule 202 applies to any person that discharges emissions into the atmosphere, exept as exempted in Rule 203. The asphalt plant does not qualify for any of the exemptions specified in Rule 203; therefore, exhaust from the asphalt plant's baghouse and the asphalt heater are subject to the visible emissions limitation specified in Rule 202.

Compliance Analysis - Rule 202 prohibits visible emissions of 20% opacity or greater for more than 3 minutes in any one hour. Visible emissions evaluations were last performed on the asphalt plant during District inspections on 7/1/97, 8/7/96, 10/6/94, and 7/28/93. During these observations, emissions from the asphalt plant baghouse complied with the opacity requirements of Rule 202. Compliance will be reevaluated during future facility inspections.

Rule 205 - Nuisance

Applicability - Rule 205 applies to any person that discharges anything into the atmosphere.

Compliance Analysis - Rule 205 prohibits the discharge of anything that may cause a nuisance. The District received a nuisance complaint regarding emissions from the asphalt plant in September 1997. Settlement of this nuisance violation and other compliance issues is currently pending. Until a settlement is reached, a demonstration of compliance can not be made. However, because the District is amending an existing permit, permit issuance should proceed. The amended permit should contain terms and conditions to address potential future nuisance issues.

Permit Requirements - The facility operator should be required to operate the asphalt plant in accordance with the manufacturer's operating and maintenance procedures. The facility operator should also know the asphalt plant's compliance status with all District rules at all times. In addition, the facility operator should be required to respond to any complaints received.

Applicability - Rule 207 applies to any person that discharges particulate matter into the atmosphere, except sources emitting combustion contaminants only. Emissions from the asphalt plant include combustion contaminants from the aggregate dryer burner and particulate matter from the aggregate drying activity. Emissions from the asphalt heater consist only of combustion contaminants. Therefore, only the emissions from the asphalt plant are subject to the requirements of Rule 207.

Compliance Analysis - Rule 207 prohibits particulate matter emissions from non-combustion sources in excess of 0.1 gr/dscf. Based on the asphalt plant's maximum production rate of 144 tons/hr and the plant's baghouse exhaust flow rate[2] of 33,280 ft^3/min (300 °F, pressure unknown), the asphalt plant's exhaust particulate matter concentration is estimated as follows:

PM Concentration = (0.044 [lb PM/ton] x 144 [tons/hr] x 1/60 [hr/min]) / (33,280 [ft^3 exhaust gas/min])
= 3.17×10^{-6} lb PM/ft^3 exhaust gas
= 0.022 grains PM/ft^3 of exhaust gas

If the barometric pressure is assumed to be 14.7 psi (standard condition), the exhaust gas volume can be corrected to standard conditions using the ideal gas law as follows:

$p_1V_1/T_1 = p_2V_2/T_2$; Where: $p_1=p_2$

$V_2 = V_1T_2/T_1 = \{1\ [ft^3] * (60 + 460)\ [°R]\} / (300 + 460)\ [°R] = 0.684\ ft^3$

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[2] The baghouse exhaust flow rate is specified in an attachment to the document entitled "Proposal for Emission Regulatory Compliance During Aggregate Remediation Processing at Tahoe Asphalt Facility" dated July 22, 1996.

Therefore, the PM concentration in the exhaust gas, corrected to standard conditions is:

PM Concentration (STP) = 0.022 grains / 0.684 ft^3 = **0.032 grains/scf**

There is insufficient information to estimate the exhaust gas volume under dry conditions. However, removing the moisture from the asphalt plant's baghouse exhaust will reduce the exhaust gas volume and increase the PM concentration. Regardless, it is unlikely that the PM concentration will exceed the 0.1 gr/dscf emission concentration specified in Rule 207.

Note: The preceding analysis, which is based on AP-42 emission factors with a "D" rating, should be considered an indication that some sources of this size and type will be able to comply with the applicable standard. **It is not, however, a demonstration that this specific source can and will comply with the applicable standard.**

Permit Requirements - In accordance with section 501.3(G) of Rule 501 and Rule 228, a particulate matter results of the source test, the District should set a maximum hourly production limit, as well as a minimum baghouse pressure drop. The facility operator will need to keep records of the hourly throughput and baghouse pressure drop.

Rule 210 - Specific Contaminants

Applicability - Rule 210 applies to all persons that discharge emissions into the atmosphere. Tahoe Asphalt's baghouse and asphalt heater discharge emissions into the atmosphere; therefore, the emissions from the baghouse and the asphalt heater are subject to the requirements of Rule 210.

Asphalt Plant Baghouse

Compliance Analysis - Rule 210(A) specifies that sulfur dioxide emissions from a source can not exceed a concentration of 2000 ppmv of exhaust gas. This is equivalent to a sulfur dioxide concentration of **3.3 x 10^{-4} lb SO_2/ft^3 of exhaust gas**. For combustion sources, sulfur dioxide emissions are typically a function of the sulfur content of the fuel source. Tahoe Asphalt is using natural gas as their fuel source. Table 11.1-7 of AP-42 lists the sulfur dioxide emission factor for natural gas-fired dryers at batch mix asphalt plants at 0.0050 lb SO_2/ton of product. Based on the asphalt plant's maximum production rate of 144 tons/hr and the plant's baghouse exhaust flow rate[3] of 33,280 ft^3/min, sulfur dioxide emissions are estimated as follows:

SO2 Concentration = (0.0050 [lb SO2/ton] x 144 [tons/hr] x 1/60 [hr/min]) / (33,280 [ft^3/min])
= **3.6 x 10^{-7} lb SO_2/ft^3 of exhaust gas**

[3] The baghouse exhaust flow rate is specified in an attachment to the document entitled "Proposal for Emission Regulatory Compliance During Aggregate Remediation Processing at Tahoe Asphalt Facility" dated July 22, 1996.

The estimated emission concentration is significantly less than the allowable emission concentration. Therefore, sulfur dioxide emissions from the baghouse should comply with the requirements of Rule 210(A). Even though the sulfur dioxide emission factor rating is D, no additional performance testing is recommended due to this wide compliance margin.

Note: The preceding analysis, which is based on an AP-42 emission factor with a "D" rating, should be considered an indication that some sources of this size and type will comply with the applicable standard. **It is not, however, a demonstration that this specific source can and will comply with the applicable standard.**

Rule 210(B) specifies that combustion contaminant (particulate matter) emissions from a source can not exceed 0.1 gr/dscf at 12% CO_2. However, Rule 210(C) states that particulate emissions from a source that is used to dry process material are not to be considered combustion contaminants. If the particulate matter emissions from burner in the aggregate dryer are removed from consideration as combustion contaminants, then no other products of combustion are emitted from the baghouse; therefore, the requirements of Rule 210(B) do not apply to the baghouse exhaust.

Permit Requirements - In order to ensure compliance with the requirements of Rule 210(A), Tahoe Asphalt should be limited to using natural gas as the fuel for the asphalt plant's aggregate dryer burner.

Asphalt Heater

Compliance Analysis - Rule 210(A) specifies that sulfur dioxide emissions from a source can not exceed 2000 ppmv. For combustion sources, sulfur dioxide emissions are predominantly a function of the sulfur content of the fuel source. Tahoe Asphalt is using natural gas as the fuel source. The sulfur content of natural gas is assumed to be approximately 2000 gr/10^6 scf[4], which is negligible. While a source is typically presumed to be in compliance with the requirements of Rule 201(A) when using natural gas, compliance can be demonstrated as follows:

Allowable SO_2 Concentration = 2,000 ppmv SO_2 = 5.3 x 10^6 μg SO_2/m^3 = **3.3 x 10^{-4} lb SO_2/ft^3 exhaust gas.**

The SO_2 emission concentration from the asphalt heater are estimated using the natural gas combustion emission factors from Table 1.4-2 of AP-42 and equation 19-1 of 40 CFR 60 Appendix A, Method 19. The SO_2 emission factor, which has an emission factor rating of A, is 0.6 lb $SO_2/10^6$ ft^3. Since no information was provided regarding the excess oxygen concentration of the asphalt heater exhaust, the excess oxygen is assumed to be zero which yields the highest emission concentration. Using a natural gas heating value of 1000 BTU/ft^3, the baghouse exhaust concentration is calculated as follows:

Equation 19-1 $C_c = E * (20.9 - \%O_2) / (20.9 * F_d)$

Where: Cd = Emission Concentration (lbs/scf)

E = Emission Rate (lbs/MMBtu)

[4]AP-42, Table 1.4-2, Footnote C.

F_d = F Factor from Table 19-1
$\%O_2$ = Excess Oxygen

Est. SO_2 Concentration = 0.6 [lb $SO_2/10^6$ ft^3 nat gas] * (1/1000) [ft^3 nat gas/BTU] * (10^6 / 8,710) [BTU/dscf exhaust gas] * [(20.9 - 0)/20.9]
= 6.89 x 10^{-8} lb SO_2/dscf exhaust gas

Because the estimated emission concentration is significantly less than the allowable emission concentration, sulfur dioxide emissions from the liquid asphalt heater should comply with the requirements of Rule 210(A). Due to the wide compliance margin, performance testing is not recommended to confirm compliance.

Rule 210(B) specifies that combustion contaminant (particulate matter) emissions from a source can not exceed 0.1 gr/dscf at 12% CO_2. The PM emission concentration from the asphalt heater are estimated using the natural gas combustion emission factors from Table 1.4-2 of AP-42 and equation 19-1 of 40 CFR 60 Appendix A, Method 19. The PM emission factor, which has an emission factor rating of C, is 12.0 lb PM/10^6 ft^3. Since no information was provided regarding the excess oxygen concentration of the asphalt heater exhaust, the excess value of 1000 BTU/ft^3, the baghouse exhaust concentration is calculated as follows:

Equation 19-1 $C_d = E * (20.9 - \%O_2) / (20.9 * F_d)$
Where:
Cd = Emission Concentration (lbs/scf)
E = Emission Rate (lbs/MMBtu)
F_d = F Factor from Table 19-1
$\%O_2$ = Excess Oxygen

Est. PM Concentration = 12.0 [lb PM/10^6 ft^3 nat gas] * (1/1000) [ft^3 nat gas/BTU] * (10^6 / 8,710) [BTU/dscf exhaust gas] * [(20.9 - 0)/20.9]
= 1.38 x 10^{-6} lb PM/dscf
= 0.010 grains PM/dscf exhaust gas

Using information from the above calculation and equation 19-6 from Method 19, the CO_2 concentration is calculated at 11.96%, or nearly 12%.

Because the estimated emission concentration is less than the allowable emission concentration, PM emissions from the liquid asphalt heater should comply with the requirements of Rule 210(A). Due to the compliance margin, performance testing is not recommended to confirm compliance.

Permit Requirements - In order to ensure compliance with the requirements of Rule 210(B), the asphalt heater should be limited to using natural gas.

Rules 211/212

Applicability - Rules 211/212 apply to any person that discharges solid particulate matter into the atmosphere from any source, unless specifically exempted in 211(A). Section 211(A)(7) provides an exemption for processing equipment used in conjunction with combustion sources to dry any process material. This exempts the emissions from the asphalt plant baghouse from the requirement to comply with the particulate matter standard of Rule 212. In addition, the definition of Process Weight Per Hour in Rule 102 exempts liquid and gaseous fuels and combustion air from being considered in the calculation of the process weight per hour. This effectively exempts the liquid asphalt heater from the requirements of Rules 211/212.

Rule 223 - Fugitive Dust

Applicability - The provisions of Rule 223(A) apply to any person that handles, transports or stores fine materials. Tahoe Asphalt handles, transports and stores fine materials, and is therefore subject to the provisions of Rule 223(A).

Compliance Analysis - Section 223(A) requires any person that handles, transports or stores fine materials to take precautions to prevent emissions of fugitive dust from becoming a nuisance. On March 16, 1998, Tahoe Asphalt, Inc. was issued a Notice of Violation and Penalty (NOV) that included allegations of violations of Rule 223 Fugitive Dust. In the NOV, Tahoe Asphalt, Inc. was offered a settlement opportunity. At this point in time, this issue is unresolved. Until a settlement is reached, a demonstration of compliance can not be made. However, because the District is amending an existing permit, permit issuance should proceed. The amended permit should contain terms and conditions to prevent future fugitive dust nuisance problems.

Permit Requirements - In March of 1994, Tahoe Asphalt submitted a Fugitive Dust Prevention and Control Plan. Applicable provisions of this plan should be incorporated into the permit. Specifically, 1) the facility operator should be required to apply water to the roadways and storage piles frequently enough to keep the dust down; 2) an on-site speed limit of 5 mph; 3) loader operators and truck drivers must carry materials in both directions to eliminate unnecessary trips; and 4) keep paved drives and streets washed clean.

Rule 224 - Cutback Asphalt and Emulsion Paving Material

Applicability - Rule 224 applies to each person that uses or manufactures, mixes, stores and applies Cutback and Emulsified asphalt for paving, road construction or road maintenance. Specifically, Section 224.3(A) applies to each person that manufactures cutback asphalt for sale or uses cutback asphalt for paving, road construction or road maintenance; and Section 224.3(B) applies to each person that manufactures emulsified asphalt for paving, road construction and road maintenance. Tahoe Asphalt manufactures cutback asphalt concrete from cutback asphalt cement and uses cutback asphalt for paving, road construction and road maintenance; however, Tahoe Asphalt does not manufacture emulsified asphalt (Tahoe Asphalt purchases emulsified asphalt). As such, Tahoe Asphalt is only subject to the requirements of 224.3(A)

Compliance Analysis - Section 224.3(A) states that a person shall not manufacture, sell or use rapid cure cutback asphalt, medium cure cutback asphalt (expect for sale/use in ozone attainment areas outside of El Dorado County), or slow cure cutback asphalt containing more than 0.5 % by volume of VOCs which evaporate at 500°F or lower. It is unknown whether Tahoe Asphalt currently complies with these requirements.

However, because the District is amending an existing permit, permit issuance should proceed. The amended permit should incorporate the requirements of Rule 224.

Permit Requirements - The requirements of Rule 224 are sufficient to ensure compliance with Rule 224.

Rule 501 - General Permit Requirements

Applicability - Rule 501 applies to any person installing, constructing or modifying a source of air pollution, unless specifically exempted. Tahoe Asphalt is retroactively going through the permitting process for an asphalt heater that was previously installed. The asphalt heater does not qualify for any of the exemptions listed in sections 501.1(B) - (N); therefore, Tahoe Asphalt is subject to the requirements of Rule 510. In addition, section 501.3(F)(3) allows the District to reevaluate existing permit conditions to determine if they are adequate to assure compliance with applicable air quality control regulations.

Compliance Analysis - Rule 501 requires any person that installs, constructs or modifies a source of air pollution to apply for an Authority to Construct for theses sources. On June 30, 1997, the District received an application from Tahoe Asphalt for the operation of a liquid asphalt heater. In addition, section 501.3(C) requires an applicant to demonstrate that the air pollutant emissions from the new sources will comply with all applicable air quality control requirements. The compliance analysis contained in this engineering evaluation satisfies that requirement. Therefore, Tahoe Asphalt is complying with the requirements of Rule 501.

Rule 516 - Upset and Breakdown Conditions

Applicability - Rule 516 applies to the owner or operator of a facility. Tahoe is an "owner or operator" as that term is defined in District Rule 102. Therefore, Tahoe Asphalt is subject to Rule 516.

Compliance Analysis - Rule 516 requires an owner or operator notify the district within two hours of any occurrence that constitutes a breakdown condition. In addition, the owner or operator must submit a written report describing the breakdown, the steps taken to correct the breakdown condition, and the measures being taken to avoid similar conditions in the future. Compliance with this Rule can only be determined after a breakdown condition occurs. Until that time, Tahoe Asphalt is presumed to be in compliance with this Rule.

Contaminated Soil Processing

The existing permit includes specific conditions to address the use of petroleum contaminated soil in the asphalt concrete production process. In order to preclude a hazardous air pollutant source test, Tahoe Asphalt owner Mike Plumer agreed to cease all contaminated soil processing activities and have the applicable conditions (19 - 22 and 24 - 34) removed from their effective air quality permit.

NSPS Subpart I - Hot Mix Asphalt Facilities

Applicability - NSPS Subpart I applies to all hot mix asphalt facilities which were constructed or modified after June 11, 1973. A facility is "modified" when it undergoes a physical change that results in an increase in an emission rate of any pollutant for which a standard applies. In 1984, the facility replaced the fuel oil-fired rotary dryer with a natural gas-fired rotary dryer. Based on the AP-42 emission factors in Table 11.1-5, the

uncontrolled PM_{10} emission rate increased from 4.3 lbs/ton to 4.4 lbs/ton. As such, the installation of the natural gas-fired aggregate dryer constituted a modification and the asphalt plant became an "affected facility" and subject to this New Source Performance Standard[5].

Compliance Analysis - As specified in 40 CFR 60.92, the asphalt plant is subject to a particulate matter emission limit of 0.04 grains/dscf, and an opacity limit of 20%. However, because the District is not delegated authority to implement the New Source Performance Standards, the District will work with the EPA to evaluate facility compliance with this standard.

Permit Requirements - Because the District is not delegated authority to implement the New Source Performance Standards, there are no associated permit recommendations.

9. RECOMMENDATION

In light of the preceding compliance analysis, I recommend that the District amend Tahoe Asphalt's Permit to Operate subject to the permit conditions specified below. Actual emissions from the asphalt plant and liquid asphalt heater, estimated at 28.5 % of the cumulative potential emissions, are in the **0 - 10 tpy** range.

PERMIT CONDITIONS

1. If any provision of this permit is found invalid, such finding shall not affect the remaining provisions of this permit.

2. Acceptance of this permit is deemed acceptance of all conditions as specified. Failure to comply with any condition of this permit or the Rules and Regulations of the El Dorado County APCD shall be grounds for suspension and/or revocation of this permit either by the Air Pollution Control Officer or the District Hearing Board. [Authority: 501.4(E)]

3. Operation of the equipment must be conducted in compliance with all data and specifications submitted with the application under which this permit was issued.

4. The District reserves the right to amend this permit, upon annual renewal, in order to ensure compliance of this facility and/or abate any public nuisance. [Authority: Rule 501.3(F)]

5. Operating staff of this facility shall be advised of and be familiar with all of the conditions contained in this permit.

6. Air Pollution Control shall be notified prior to any Change of Ownership. [Authority 501.3(E)]

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[5]Additionally, the physical change to the facility may constitute "reconstruction", as that term is defined in 40 CFR 60.15. However, the applicant has not supplied sufficient information to make this determination.

7. Air Pollution Control must be notified prior to any alteration or modification of the system and/or equipment. [Authority: 501.3(A)]

8. The Air Pollution Control Officer and his duly authorized agents shall have the right of entry to any premises on which an air pollution emission source is located for the purposes of inspecting such source, including securing samples of emissions therefrom or any records required to be maintained therewith by the District. The Air Pollution Control Officer or his duly authorized agents shall have the right to inspect sampling and monitoring apparatus as he deems necessary. [Authority: Rule 509]

9. Permittee shall post the Permit to Operate in an accessible place on the premises so as to be clearly visible and readily available at all times on the operating premises. [Authority: 501.4(A)]

10. Rule 202 - Visible Emissions - Permittee shall ensure that visible emissions from the asphalt plant baghouse and from the asphalt heater exhaust stack do not exceed 20% opacity for more than three minutes in any one hour. [Authority: 202(B)]

    a. Compliance Monitoring - Permittee shall observe the exhaust from the asphalt plant baghouse and from the asphalt heater exhaust once each month while each unit is operating. Observations shall be taken with the sun behind the observer. If the emissions from the baghouse or the heater exhaust are visible, Permittee shall perform a visual emissions evaluation according to the procedures specified in 40 CFR 60 Appendix A, Method 9 - Visual Determination of the Opacity of Emissions from Stationary Sources.

    b. Record keeping - Permittee shall keep a written record of the monthly opacity observations and any Method 9 visual emissions evaluation performed on the baghouse or heater exhaust. The record of the monthly opacity observations shall include the date and time of the observations, the name and title of the observer, and whether or not emissions from the baghouse or heater exhaust are visible.

    c. Reporting - Permittee shall submit an annual compliance monitoring report that includes the records specified in the record keeping requirement directly above. This report shall be submitted by each January 31st for the preceding calendar year.

11. Rule 205 - Nuisance - Permittee shall not discharge from any source whatsoever such quantities of air contaminants or other material which cause injury, detriment, nuisance or annoyance to any considerable number of persons, or to the public, or which endanger the comfort, repose, health or safety of any such persons, or the public, or which cause to have a natural tendency to cause injury or damage to business or property. [Authority: Rule 205]

    a. Compliance Monitoring - Permittee shall operate the asphalt plant according to the manufacturer's recommended operating and maintenance procedures and as specified in the application. Permittee shall promptly respond to any public complaints regarding the emissions from the asphalt plant. If necessary, Permittee shall reduce the asphalt plant throughput or cease asphalt plant operations to abate a nuisance.

    b. Record keeping - Permittee shall keep a written record of public complaints, including: date,

c. Reporting - With the annual compliance monitoring report and for each day the asphalt plant operates, Permittee shall provide a daily summary of the baghouse operations. This summary shall include the minimum and maximum baghouse pressure drop.

14. Rule 210 - Specific Contaminants

I. Sulfur compounds - Permittee shall not discharge into the atmosphere from either the asphalt plant/baghouse or the liquid asphalt heater sulfur compounds, expressed as sulfur dioxide, in excess of 2000 parts per million by volume. [Authority: Rule 210(A)]

a. Compliance Monitoring - Permittee shall comply with this requirement by using natural gas as the fuel source for the aggregate dryer and the asphalt heater.

b. Record keeping - None required.

c. Reporting - None required.

II. Combustion Contaminants - Permittee shall not discharge into the atmosphere from the liquid asphalt heater combustion contaminants in excess of 0.1 gr/dscf, calculated at 12% CO_2. [Authority: Rule 210(B)]

natural gas as the fuel source for the asphalt heater.

b. Record keeping - None required.

c. Reporting - None required.

15. Rule 223 - Fugitive Dust - Permittee shall take reasonable precautions to prevent fugitive dust from becoming a nuisance. [Authority: Rule 223(A) & 223(B)]

a. Compliance Monitoring - Permittee shall take the following precautions to prevent fugitive dust from becoming a nuisance.

1. Permittee shall apply water to roadways and storage piles frequently enough to keep fugitive dust down;

2. Permittee shall enforce a maximum on-site speed limit of 5 miles per hour.

3. Permittee shall ensure that, whenever possible, loader operators and truck drivers carry materials in both directions to eliminate unnecessary trips; and

4. Permittee shall ensure that paved drives and streets adjacent to the facility are washed clean.

In addition, Permittee shall promptly respond to any public complaints regarding the fugitive dust from the facility. If necessary, Permittee shall reduce or halt facility operations to abate a nuisance.

b. Record keeping - Permittee shall keep a written record of public complaints, including: date, time, nature and disposition of each complaint.

c. Reporting - With the annual compliance monitoring report, Permittee shall submit copies of the records specified in the record keeping requirement directly above.

16. Rule 224 - Cutback and Emulsified Asphalt Paving Materials - Permittee shall not manufacture for sale

or use for paving, road construction or road maintenance any: a) rapid cure cutback asphalt; b) medium cure cutback asphalt (except for sale and/or use in ozone attainment areas outside of El Dorado County); or c) slow cure cutback asphalt containing more than 0.5 % by volume of organic compounds which evaporate at 500 °F or lower. [Authority: 224.3(A)]

a. Compliance Monitoring - None required.

b. Record keeping - Permittee shall keep a written record of the type, amount and destination of all cutback asphalt concrete produced at the facility. Permittee shall keep a written record of the amount of cutback asphalt cement received, sold and used at the facility. Permittee shall keep, at the facility, a copy of the Material Safety Data Sheets for each cutback asphalt product. These records shall be kept on site for at least three years and shall be made available to the District upon request.

C. Reporting - With the annual compliance monitoring report, Permittee shall submit copies of the records specified in the record keeping requirement directly above.

17. Upset and Breakdown Conditions

I. Breakdown Procedure - Permittee shall notify the District of any occurrence which constitutes a breakdown condition. Such notification shall identify the time, specific location, equipment involved, and (to the extent known) the cause(s) of the occurrence, and shall be given as soon as reasonable possible, but not latter than two (2) hours after its detection during normal District business hours. [Authority: 516(A)]

II. Reporting Requirements - Within one week after a breakdown occurrence has been corrected, the owner or operator shall submit a written report to the District which includes: 1) a statement that the occurrence has been corrected together with the date of correction and proof of compliance; 2) a specific statement of the reason(s) or cause(s) for the occurrence sufficient to enable the Air Pollution Control Officer to determine whether the occurrence was a breakdown condition; 3) a description of the corrective measures undertaken and/or to be undertaken to avoid such an occurrence in the future; 4) an estimate of the quantity of, or detailed description of emissions caused by the occurrence; and 5) pictures of the equipment or control which failed, if available. [Authority: 516(D)]

18. Quarterly and Annual Emissions Limit - Permittee shall ensure that air pollutant emissions from the operation of the asphalt plant, baghouse and liquid asphalt heater do not exceed the quarterly and annual limits listed in Table 1 below: [Authority: 523.2(KK)]

Table 1
Air Pollutant

Limit (lbs)	SO_2	NO_x	CO	ROC	PM	PM_{10}
Quarterly	601.3	3,219.0	40,846.0	2,057.5	5,306.3	2,426.3
Annual	655.3	4,126.0	44,384.0	2,280.1	8,548.1	3,302.1

a. Compliance Monitoring - Permittee shall comply with the quarterly and annual emission limits listed in Table 1 by not producing more than120,000 tons of asphalt concrete per calendar quarter or more than 130,000 tons of asphalt concrete per year.
b. Record keeping - Permittee shall keep a record of the amount of asphalt concrete produced each day.
c. Reporting - With the annual compliance monitoring report, Permittee shall submit a summary of the amount of asphalt concrete produced each calendar quarter during the preceding calendar year.

19. Petroleum Contaminated Soil Processing - Permittee shall not use petroleum contaminated soils in the asphalt concrete production process. Permittee shall not store at the facility contaminated soils generated off-site.

Potential Emissions Estimate

Permit #: P/O #08-167-01
Applicant: Tahoe Asphalt, Inc.

Batch Mix Hot Asphalt Plant

Pollutant Units	Emission Factor (lbs/ton)	Equipment Rating (tons/hr)	Maximum Production Rate Daily (tons)	Quarterly (tons)	Annual (tons)	Maximum Potential Emissions Daily (lbs)	Quarterly (lbs)	Annual (lbs)	Notes
PM	0.044	144	3,456.0	120,000.0	130,000.0	152.1	5,280.0	5,720.0	1,3,4,5
PM10	0.020	144	3,456.0	120,000.0	130,000.0	69.1	2,400.0	2,600.0	1,3,4,5
CO	0.340	144	3,456.0	120,000.0	130,000.0	1,175.0	40,800.0	44,200.0	2,3,4,5
Nox	0.025	144	3,456.0	120,000.0	130,000.0	86.4	3,000.0	3,250.0	2,3,4,5
SO2	0.005	144	3,456.0	120,000.0	130,000.0	17.3	600.0	650.0	2,3,4,5
VOC	0.017	144	3,456.0	120,000.0	130,000.0	58.8	2,040.0	2,210.0	2,3,4,5

Notes:

1. Emission factor obtained from AP-42, Table 11.1-2, for natural gas dryers using a fabric filter.
2. Emission factor obtained from AP-42, Table 11.1-7, for natural gas dryers.
3. Potential daily emissions are estimated based on the maximum equipment rating and 24 hrs/day of operation.
4. Potential quarterly emissions are based on a maximum quarterly production rate of 120,000 tons per calenday quarter, as specified in the application. However, because this production rate is significantly less than the plant's maximum annual capacity, this quarterly production rate must be specified as a new permit condition.
5. Potential annual emissions are based on a maximum annual production rate of 130,000 tons, as specified in condition 18 of the effective permit.

Liquid Asphalt Storage Tank Combustion Emissions

Pollutant	Emission Factor	Rating	Potential Emissions			
			Daily	Quarterly	Annual	
Units	(lb/MMcf)	MMBTU/hr	(lbs)	(lbs)	(lbs)	(tons)
SO2	0.6	1.00	0.0	1.3	5.3	0.0
NOx	100.0	1.00	2.4	219.0	876.0	0.4
CO	21.0	1.00	0.5	46.0	184.0	0.1
ROC	8.0	1.00	0.2	17.5	70.1	0.0
PM/PM10	12.0	1.00	0.3	26.3	105.1	0.1

Notes:

1. Emission factors obtained from AP-42, Table 1.4-2, for uncontrolled emissions from commercial boilers. PM/PM10 emissions presumed to be included in baghouse emissions estimate.
2. Heating content of natural gas assumed to be 1000 BTU/cf.
3. As specified in the application, the asphalt heater operates 24 hrs/day, 365 days per year.
4. ROC emissions include only nonmethane hydrocarbons.
5. All PM emissions are assumed to be PM10.

Fugitive Emission Summary

Source	Potential Annual Emissions PM (lbs)	PM10 (lbs)
Aggregate Pile Handling	70	33
Paved Roads	2,300	437
Unpaved Roads	353	127
Total	2,723	597

Notes: 1. See attached calculation sheets for details.

Table 11.1-2 (English Units). EMISSION FACTORS FOR BATCH MIX HOT MIX ASPHALT PLANTS[a]

Process	Filterable PM				Condensable PM						Total PM			
	PM	EMISSION FACTOR RATING	PM-10[b]	EMISSION FACTOR RATING	Inorganic	EMISSION FACTOR RATING	Organic	EMISSION FACTOR RATING	Total	EMISSION FACTOR RATING	PM	EMISSION FACTOR RATING	PM-10	EMISSION FACTOR RATING
Natural gas-fired dryer (SCC 3-05-002-01)														
Uncontrolled	32[c]	E	4.5	E	0.0033[d]	D	0.00078[d]	D	0.0041	D	32	E	4.5	E
Low-energy scrubber[e]	0.077	D	ND		0.0033	D	ND		ND		ND		ND	
Venturi scrubber[e]	0.052	E	ND		ND		ND		ND		ND		ND	
Fabric filter	0.040[f]	D	0.016	D	0.0027[g]	D	0.00078[g]	D	0.0035[h]	D	0.044[j]	D	0.020	D
Oil-fired dryer (SCC 3-05-002-01)														
Uncontrolled	32[c]	E	4.5	E	0.017[d]	E	ND		0.045[d]	D	32	E	4.5	E
Venturi scrubber[e]	0.052	E	ND		0.017	E	ND		ND		ND		ND	
Fabric filter	0.040[e]	D	0.016	D	ND		ND		0.045[k]	D	0.085[m]	D	0.061	D

[a] Factors are lb/ton of product. Filterable PM emission factors were developed from tests on dryers fired with several different fuels. SCC = Source Classification Code. ND = no data.

[b] Particle size data from Reference 23 were used in conjunction with the filterable PM emission factors shown.

[c] Reference 5.

[d] Although no data are available for uncontrolled condensable PM, values are assumed to be equal to the maximum controlled value measured.

[e] Reference 15.

[f] References 15,24,40-41.

[g] Reference 24.

[h] References 24,39.

[j] References 15,24,39-41.

[k] Reference 39.

[m] Reference 40.

6/24/98

Tahoe Asph +

Fugitive Emission Estimate 1/3

Aggregate Pile Handling AP 42 13.2.4

Assume M = Moisture Content = 4%

U = Wind Speed = 5 mph

Q = Quantity of Aggregate handled

= 60% of max production rate of (130,

= 78,000 Tons/yr

H = particle size multiplier for < 30μ

= 0.74

Equation (AP 42 13.2.4 Equation # 1)

$$EF = H(0.0032)\frac{\left[\frac{U}{5}\right]^{1.3}}{\left[\frac{M}{2}\right]^{1.4}}$$

$$= (0.74)(0.0032)\frac{\left[\frac{5}{5}\right]^{1.3}}{\left[\frac{4}{2}\right]^{1.4}} = 8.97 \times 10^{-4}$$

$PM\ E = EF \times Q = (8.97 \times 10^{-4})(78{,}000) = 69.99 \approx \underline{70\ lb/yr}$ PM

PM_{10} = 47% PM from AP-42 13.2.4-3

≈ 33 lb/yr

Fugitive Emissions Est

Unpaved Roads AP42 13.2.2

Equation

$$EF = K(1.7)\left[\frac{s}{12}\right]\left[\frac{\bar{S}}{30}\right]\left[\frac{\bar{W}}{3}\right]^{0.7}\left[\frac{w}{4}\right]^{0.5}\left[\frac{365-p}{365}\right]$$

Where:

EF = emission factor in lbs/VMT

K = particle size multiplier

s = silt content (%)

$\bar{S}$ = mean vehicle speed (mph)

$\bar{W}$ = mean vehicle weight

w = mean # wheels

p = days of rain > 0.01"

Assume

K = 1 ; s = 4.8%; $\bar{S}$ = 5 mph ; $\bar{W}$ = 10 tons; w = 18 wheels

p = 90

$$EF = (1)(1.7)\left(\frac{4.8}{12}\right)\left(\frac{5}{30}\right)\left(\frac{10}{3}\right)^{0.7}\left(\frac{18}{4}\right)^{1/2}\left[\frac{365-90}{365}\right]$$

$$= 0.42 \text{ lb PM/VMT}$$

Assume

VMT = 1/3 miles of road x 15 trips/day x 28 weeks/yr x 6 days/week

= 840 VMT/yr

PM Emissions = (0.42 lb PM/VMT)(840 VMT/yr)

= 352.8 lb PM/yr

$PM_{10}/PM = 0.36/1.0 = 36\%$

$PM_{10} = 36\%\ (352.8) = 127$ lb/yr

6/30/98

Fugitive Emissions Est 3/3

Paved Roads (AP-42, Section 13.2.1)

Equation $E = k(sL/2)^{0.65}(W/3)^{1.5}$

where E = particulate emission factor

k = base emission factor for particle size range & units

sL = road surface silt loading (g/m^2)

W = Mean vehicle weight (Tons)

Assume:

k = 38 g/VMT per AP-42 13.2.1-3

sL = 120 g/m^2 per Table 13.2.1-1, AP-42 fr. Asphalt Batching for PM-30 (TSP)

W = 10 Tons =

$E = 38(120/2)^{0.65}(10/3)^{1.5}$

$= 3310.55$ g/VMT = 7.30 lb/VMT

Assume

VMT = 1/8 mile road (in front of Tehachapi Asphalt) x 15 Trips/day x 250 weeks/yr x 6 days/week

= 315 vehicle miles Traveled/yr

PM = 7.3 lb/VMT x 315 VMT/yr =

= 2300 lb/yr

$PM_{10}/PM = 7.3/38 = 19\%$

$PM_{10} = (19\%)(2300) = 437$

TAHOE ASPHALT FACILITY

CALCULATION OF INPUT DATA FOR USE WITH SCREEN DISPERSION MODEL

CALULATION OF MAXIMUM PRODUCTION RATE OF THE FACILITY

FACILITY IS PHYSICALLY LIMITED TO 165 TONS /HR = 150 Mg/HR
= 0.041667 Mg/sec

CALULATION OF STACK HEIGHT

EXISTING HEIGHT OF STACK IS 28 FT
IN METERS THE HEIGHT OF THE STACK IS 28FT X .30480 M/FT = 8.5344 M

CALCULATION OF STACK INSIDE DIA

STACK IS RECTANGULAR LENGTH = 50" WIDTH = 28"

EQUIVALENT DIA = $\frac{2 \times \text{LENGTH} \times \text{WIDTH}}{\text{LENGTH} + \text{WIDTH}}$ = 35.89744 INCHES

THUS THE EQUIVALENT DIA OF THE STACK IN METERS = 0.911795 METERS

CALCULATION OF VOLUMETRIC FLOW RATE

AT MAXIMUM PRODUCTION RATE THE VOLUMETRIC FLOW RATE @STACK = 33280 FT^3/MIN
= 554.6667 FT^3/SEC
= 15.70816 M^3/SEC

CALCULATION OF EXIT VELOCITY

EXIT VELOCITY = $\frac{\text{VOLMETRIC FLOW RATE}}{\text{AREA OF STACK}} = \frac{15.70816}{3.14159 * 0.911795\ ^2/4}$

= 24.05698 M/SEC

CALCULATION OF STACK TEMPERATURE

EXISTING TEMPERATURE OF THE STACK EXIT GAS IS 300 DEG F.

CONVERTING THIS TEMPERATURE TO CELCIUS = 148.8889

CONVERTING THIS TEMPERATURE TO KELVIN = 421.8889 DEG K.

Attachment to Document entitled "Proposal for Emission Regulatory Compliance During Aggregate Remediation Processing @ Tahoe Asphalt Facility" dated July 22, 1996

EL DORADO COUNTY ENVIRONMENTAL MANAGEMENT DEPARTMENT
AIR POLLUTION CONTROL DISTRICT
2850 FAIRLANE COURT, PLACERVILLE, CA 95667
Phone: (916) 621-6662 FAX: (916) 642-1531

Permit to Operate: 08-167-01

Date Issued: 05-16-97

Expires: 06-11-98

AIR POLLUTION PERMIT

REVOCABLE AND NON TRANSFERABLE

This permit is hereby granted to:

TAHOE ASPHALT INC.
P.O. BOX 8378
SOUTH LAKE TAHOE, CA 96158

Equipment Location:

TAHOE ASPHALT INC.
1104 INDUSTRIAL AVE.
SO. LAKE TAHOE, CA 96150

For the equipment described below and as shown on the approved plans and specifications and subject to the conditions listed.

*** * * TO OPERATE * * ***
BAGHOUSE

Type:	Baghouse
Manufacturer:	Standard Havens
Model #:	Magnum 8.5
Motor size:	250 HP
Number of Bags & Size:	512 NOMAX Filters, 6" x 60"
Method of Cleaning Bags:	Pulse forced air

Associated equipment :

1 Weight Hopper	1 Hot Feed Bin
1 Plant Screen	1 Pug Mill
1 Hot Elevator	1 Dryer

(See Page two and three for Permit to Operate Conditions)

THIS PERMIT DOES NOT AUTHORIZE THE EMISSION OF AIR CONTAMINATES IN EXCESS OF THOSE ALLOWED BY FEDERAL, STATE, OR DISTRICT RULES AND REGULATIONS.

BY Dennis Haun
for AIR POLLUTION CONTROL OFFICER

POST IN A CONSPICUOUS PLACE

PERMIT TO OPERATE CONDITIONS

TAHOE ASPHALT INC.
PERMIT NUMBER: 08-167-01, EXPIRES: 06-11-98

All proposals of the applicant are conditions of approval unless mentioned herein.

1. If any provision of this permit is found invalid, such finding **SHALL NOT** affect the remaining provisions of this permit.

2. Acceptance of this permit is deemed acceptance of all conditions as specified. Failure to comply with any condition of this permit or the Rules and Regulations of the El Dorado County APCD **SHALL** be grounds for suspension and/or revocation of this permit, either by the Air Pollution Control Officer or the Air Pollution Control District Hearing Board.

3. Operation of the equipment **MUST** be conducted in compliance with all data and specifications submitted with the application under which this permit was issued.

4. The District reserves the right to amend this permit, upon annual renewal, in order to insure compliance of this facility and/or to abate any public nuisance. (Rule 501.3 F.)

5. Operating staff of this facility **SHALL** be advised of and be familiar with all the conditions contained in this permit.

6. Fugitive emissions from any source **SHALL NOT** be visible at any point beyond the facility's property lines.

7. Air Pollution Control **MUST** be notified **PRIOR** to Change of Ownership (Rule 501.3 E.).

8. Air Pollution Control **MUST** be notified **PRIOR** to any alteration or modification of the system and/or equipment (Rule 501.3 A.).

9. Air Pollution Control **MUST** be notified of upset or breakdown (Rule 516).

All facility-specific conditions

10. Records **SHALL** be maintained for any and all maintenance (Rule 501.5 C.).

Transfer to new P/O

11. The facility **SHALL NOT** discharge from any source whatsoever such quantities of air contaminants or other material which cause injury, detriment, nuisance or annoyance to any considerable number of persons, or to the public, or which endanger the comfort, repose, health or safety of any such persons, or the public, or which cause to have a natural tendency to cause injury or damage to business or property (Rule 205).

DCR

PERMIT TO OPERATE CONDITIONS (CONTINUED)

TAHOE ASPHALT INC.
PERMIT NUMBER: 08-167-01, EXPIRES: 06-11-98

12. The Air Pollution Control Officer and his duly authorized agents **SHALL** have the right of entry, during normal operating hours or in the case of an emergency, to any premises on which an air pollution emission source is located for the purpose of inspecting such source, including securing samples of emissions therefrom or any records required to be maintained therewith by the District. The Air Pollution Control Officer or his duly authorized agent shall have the right to inspect sampling and monitoring apparatus as he deems necessary (Rule 509).

13. The owner or operator **SHALL** post the Permit to Operate. A person who has been granted a permit to operate any article, machine, equipment, or other contrivance described in Section 501.3 B., of this rule shall maintain a legible copy of said permit on the premises of the subject equipment. Other information, analysis, plans or specifications which disclose the nature, extent, quantity, or degree of air contaminants which are or may be discharged from such source shall be readily available for inspection by the Air Pollution Control Officer (Rule 501.4 A).

14. Baghouse emissions **SHALL NOT** be as dark or darker in shade as that designated as No. 1 (20% Opacity) on the Ringlemann Chart for a period or periods aggregating more than three (3) minutes in any one hour (Rule 202).

15. The owner or operator **SHALL** record any maintenance done on the permitted equipment on a weekly basis and shall be made readily available for review upon request by the Air Pollution Control Officer (Rule 501.5 C.).

16. The facility **SHALL NOT** cause, suffer, allow, or permit any fine material to be handled, transported, or stored without taking precautions which prevent the material from becoming airborne and leaving the property (Rule 223).

17. The owner or operator **SHALL** maintain, at all times, a 25% supply of the baghouse's filters and immediately reorder upon usage of this stock (Rule 501.4 E.)

18. Asphalt production **SHALL NOT** exceed 130,000 tons per year. Production records **SHALL** be maintained and available to the District upon request (Rules 501.4 and 501.5 C.).

19. Use of petroleum contaminated soil in the asphalt production process **SHALL NOT** exceed 2800 tons per year. Process records **SHALL** be maintained and available to the District upon request (Rules 503 and 501.4).

20. All contaminated soil **SHALL** be analyzed on a qualitative and quantitative basis for volatile organic compounds. The chemical analysis **SHALL** be reviewed by the El Dorado County Environmental Management Department's Hazardous Material/Solid Waste Division and Air Pollution Control District **PRIOR** to the material being accepted for storage and processing. County approval of material **SHALL** be transmitted to Tahoe Asphalt in writing (Rule 501.4).

21. Contaminated soil **SHALL** not exceed ten percent of the aggregate used in the asphalt mix (Rule 501.4).

22. Contaminated soil originating from different sites **SHALL** be stored separately and **SHALL NOT** be mixed prior to processing. Storage of contaminated soil **SHALL NOT** exceed 1000 cubic yards at any given time (Rule 501.4).

23. No person may cause, suffer, allow, or permit any fine material to be handled, transported, or stored without taking precautions determined by the Air Pollution Control Officer to be necessary (Rule 223).

24. Chlorinated materials **SHALL** not be remediated at the facility.

25. Materials containing lead **SHALL** not be remediated at the facility.

26. The maximum concentration of benzene in the material to be remediated **SHALL** not exceed 20 ppb (µg/kg) as processed in the dryer.

27. The maximum concentration of toluene in the material to be remediated **SHALL** not exceed 400 ppb (µg/kg) as processed in the dryer.

28. The maximum concentration of xylenes in the material to be remediated **SHALL** not exceed 3000 ppb (µg/kg) as processed in the dryer.

29. The maximum concentration of ethylbenzene in the material to be remediated **SHALL** not exceed 400 ppb (µg/kg) as processed in the dryer.

30. The percentage of the material to be remediated to the total output of the facility will be calculated on a case by case basis so that the concentrations of the compounds will not exceed those levels as enumerated in conditions #26 through #29. These calculations **SHALL** be kept as part of the log book.

PERMIT TO OPERATE CONDITIONS (CONTINUED)

TAHOE ASPHALT INC.
PERMIT NUMBER: 08-167-01, EXPIRES: 06-11-98

31. A log book is to be kept on the receipts of material to be remediated showing the date of receipt, the source of materials, the test documents on the material, the date processed, and the calculation of the percentage of the total output of the facility that the material to be processed has become during processing. This log book is to be available for inspection at anytime for a period of five years from the date of entry.

32. No soil **SHALL** be received from any project where the total petroleum hydrocarbon (TPH) levels in the soil have been detected at levels greater than 3,000 ppm (mg/kg).

33. A sample of the log **SHALL** be submitted and approved by the District.

34. Contaminated soil projects **SHALL** be approved by the South Lake Tahoe Environmental Management office.

6/24/98

Tahoe Ash #1

Fugitive Emission Estimate 1/3

Aggregate Pile Handling AP 42 13.2.4

Assume M = Moisture Content = 4%

U = Wind Speed = 5 mph

Q = Quantity of Aggregate handled

= 60% of max Production rate of (130,0

= 78,000 Tons/yr

H = Particle size multiplier for < 30μm

= 0.74

Equation (AP 42 13.2.4 Equation # 1)

$$EF = H(0.0032)\frac{\left[\frac{U}{5}\right]^{1.3}}{\left[\frac{M}{2}\right]^{1.4}}$$

$$= (0.74)(0.0032)\frac{\left[\frac{5}{5}\right]^{1.3}}{\left[\frac{4}{2}\right]^{1.4}} = 8.97 \times 10^{-4}$$

$PM\ E = EF \times Q = (8.97 \times 10^{-4})(78{,}000) = 69.99 \approx \underline{70\ lb/yr}$ PM

PM_{10} = 47% PM from AP-42 13.2.4-3

≐ 33 lb/yr

Fugitive Emissions Est

Unpaved Roads AP42 13.2.2

Equation

$$E.F = K(1.7)\left[\frac{s}{12}\right]\left[\frac{\bar{s}}{30}\right]\left[\frac{\bar{w}}{3}\right]^{0.7}\left[\frac{w}{4}\right]^{0.5}\left[\frac{365-p}{365}\right]$$

Where:

EF = emission factor in lbs/VMT

K = Particle Size multiplier

s = Silt content (%)

$\bar{s}$ = mean vehicle speed (mph)

$\bar{w}$ = mean vehicle weight

w = mean # wheels

p = days of rain > 0.01"

Assume

K = 1 ; s = 4.8%; $\bar{s}$ = 5 mph ; $\bar{w}$ = 10 Tons; w = 18 wheels

p = 90

$$EF = (1)(1.7)\left(\frac{4.8}{12}\right)\left(\frac{5}{30}\right)\left(\frac{10}{3}\right)^{0.7}\left(\frac{18}{4}\right)^{1/2}\left[\frac{365-90}{365}\right]$$

$$= 0.42 \text{ lb PM/VMT}$$

Assume

VMT = 1/3 miles of road x 15 trips/day x 28 weeks/yr x 6 days/week

= 840 VMT/yr

PM Emissions = (0.42 lb PM/VMT)(840 VMT/yr)

= 352.8 lb PM/yr

$PM_{10}/PM = 0.36/1.0 = 36\%$

$PM_{10} = 36\%\ (352.8) = 127$ lb/yr

6/30/98

Fugitive Emissions Est 3/3

Paved Roads (AP-42, Section 13.2.1)

Equation $E = k(sL/2)^{0.65}(W/3)^{1.5}$

where E = particulate emission factor

k = base emission factor for particle size range & units

sL = road surface silt loading (g/m^2)

W = Mean vehicle weight (tons)

Assume:

k = 38 g/VMT per AP-42 13.2.1-3

L = 120 g/m^2 per Table 13.2.1-1, AP-42 for Asphalt Batching for PM-30 (TSP)

W = 10 tons =

$E = 38(120/2)^{0.65}(10/3)^{1.5}$

$= 3310.55$ g/VMT $= \underline{7.30}$ lb/VMT

Assume

VMT = 1/8 mile road (in front of Tehachapi Asphalt) × 15 Trips/day × 250 weeks/yr × 6 days/week

$= 375$ vehicle miles Traveled/yr

PM = 7.3 lb/VMT × 315 VMT/yr =

$= \underline{2300}$ lb/yr

$PM_{10}/PM = 7.3/38 = 19\%$

$PM_{10} = (19\%)(2300) = 437$

Oahu Asphalt: 5-11-90

Operating:

$$\frac{300\ \text{hrs}}{\text{yr}} \cdot \frac{\text{lbs}}{\text{hr}} \cdot \frac{\text{ton}}{2000\ \text{lb}} = 0.15\ \text{TPY}$$

(FACTOR) 0.15 TPY x NO_x TPY = TPY
" x CO TPY = "
" x PM TPY = "

Source Test Data: lbs/hr

	①	②	③	$\bar{x}$
NO_x	6.0	6.1	6.6	6.2
CO	123	130	130	128
PM	1.9	1.9	1.3	1.7

			TPY
NO_x	0.15 x 6.2 x 4.38 =	4.07	4.1
CO	0.15 x 128 x 4.38 =	84.10	84.1
PM	0.15 x 1.7 x 4.38 =	1.12	1.1

Total = 89.3